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Institute Report No. 333

**Acute Intravenous Toxicity Study of
Hypertonic Saline/Dextran 70[®] and Constituents
in ICR Mice**

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**MAMMALIAN TOXICOLOGY BRANCH
DIVISION OF TOXICOLOGY**

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December, 1988

Toxicology Series: 245

**LETTERMAN ARMY INSTITUTE OF RESEARCH
PRESIDIO OF SAN FRANCISCO, CALIFORNIA 94129**

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Acute Intravenous Toxicity Study of Hypertonic Saline/Dextran 70® and Constituents in ICR Mice (Toxicology Series 245)--Frost *et al*

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 6 Jan 89

**Edwin S. Beatrice
COL, MC
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19. ABSTRACT (Continue on reverse if necessary and identify by block number) The acute toxicity following intravenous administration of a proposed new resuscitation fluid, hypertonic saline/ Dextran 70® (HSD), was evaluated in male and female ICR mice. Animals were administered a single intravenous dose of HSD, 28 ml/kg over a 5-minute period, in an attempt to define its maximum tolerated dose. Equal volumes of each HSD component, 7.5% hypertonic saline (HS) and 6% Dextran 70® (D70) in normal saline, and Ringer's lactate (RL) were also evaluated. Observations were made at 1, 2, and 4 hours after administration on the day of dosing and twice daily for the remainder of the study. The animals in each group were divided into two subgroups based on whether they were submitted to necropsy on Day 3 or Day 14 after dosing. HSD produced death within 12 minutes of the injection in 2 of 20 mice, pale eyes, and tail sloughing, findings similar to those observed with HS. Major signs				
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Resuscitation Fluid, ICR Mice

19. ABSTRACT (cont.)

observed in all groups were hunched posture, rough coat, hyperactivity, inactivity, and increased rate and/or depth of respiration. Body weights were unaffected by the dosing and no gross or microscopic lesions could be attributed to HSD or its constituents. These data suggest that the maximum tolerated dose of HSD following acute intravenous administration is less than 28 ml/kg, and that the toxicity associated with HSD is consistent with the administration of large volumes of hypertonic saline. Since the proposed therapeutic dose of HSD is only 4 ml/kg, these findings indicate that there will be minimal adverse effects associated with the therapeutic administration of HSD.

ABSTRACT

The acute toxicity following intravenous administration of a proposed new resuscitation fluid, hypertonic saline/Dextran 70® (HSD), was evaluated in male and female ICR mice. Animals were administered a single intravenous dose of HSD, 28 ml/kg over a 5-minute period, in an attempt to define its maximum tolerated dose. Equal volumes of each HSD component, 7.5% hypertonic saline (HS) and 6% Dextran 70® (D70) in normal saline, and Ringer's lactate (RL) were also evaluated. Observations were made at 1, 2, and 4 hours after administration on the day of dosing and twice daily for the remainder of the study. The animals in each group were divided into two subgroups based on whether they were submitted to necropsy on Day 3 or Day 14 after dosing. HSD produced death within 12 minutes of the injection in 2 of 20 mice, pale eyes, and tail sloughing, findings similar to those observed with HS. Major signs observed in all groups were hunched posture, rough coat, hyperactivity, inactivity, and increased rate and/or depth of respiration. Body weights were unaffected by the dosing and no gross or microscopic lesions could be attributed to HSD or its constituents. These data suggest that the maximum tolerated dose of HSD following acute intravenous administration is less than 28 ml/kg, and that the toxicity associated with HSD is consistent with the administration of large volumes of hypertonic saline. Since the proposed therapeutic dose of HSD is only 4 ml/kg, these findings indicate that there will be minimal adverse effects associated with the therapeutic administration of HSD.

Key Words: Acute Toxicity, Intravenous Administration, Maximum Tolerated Dose, Hypertonic Saline/Dextran 70®, Hypertonic Saline, Dextran 70®, Ringer's Lactate, Resuscitation Fluid, ICR Mice

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PREFACE

TYPE REPORT: Acute Toxicity GLP Study Report

TESTING FACILITY:

US Army Medical Research and Development Command
Letterman Army Institute of Research
Presidio of San Francisco, CA 94129-6800

SPONSOR:

US Army Medical Research and Development Command
Letterman Army Institute of Research
Presidio of San Francisco, CA 94129-6800

PROJECT DIRECTOR: Charles Wade, PhD

PROJECT/WORK UNIT/APC: 3S463807D836/087/TLRO

GLP STUDY NUMBER: 88001

STUDY DIRECTOR: Don W. Korte, Jr., PhD, MAJ, MSC
Diplomate, American Board of Toxicology

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Diplomate, American College of
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CO-PRINCIPAL INVESTIGATOR: Gary M. Zaucha, DVM, CPT, VC

PATHOLOGIST: G. David Young, DVM, MAJ, VC

DATA MANAGER: Yvonne C. LeTellier, BS

REPORT AND DATA MANAGEMENT: A copy of the final report,
study protocols, retired SOPs,
raw data, analytical and
stability data, and an aliquot
of the test compound will be
retained in the LAIR Archives.

TEST SUBSTANCE: Hypertonic Saline/Dextran 70®

INCLUSIVE STUDY DATES: 25 May 88 - 28 Jun 88


OBJECTIVE: The objective of this study was to determine
the acute toxicity of hypertonic saline/Dextran
70® following intravenous administration in male
and female ICR mice.


ACKNOWLEDGMENTS

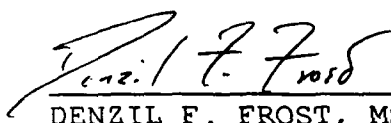
SPC Dean K. Magnuson, BS, SPC Eric Dahlberg, BS, and SPC Wilmar O. L. Villa provided assistance in dose preparation and administration; SGT Tammie Heineman, SGT Barbara D. Green, and Richard Katona provided data collection, animal care, and facility management.

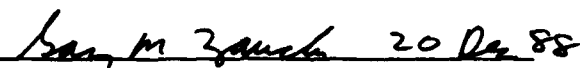
**SIGNATURES OF PRINCIPAL SCIENTISTS AND MANAGERS
INVOLVED IN THE STUDY**

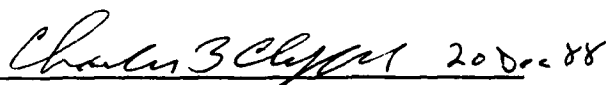
We, the undersigned, declare that GLP study number 88001 was performed under our supervision, according to the procedures described herein, and that this report is an accurate record of the results obtained.

 20 DEC 88
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DEPARTMENT OF THE ARMY

LETTERMAN ARMY INSTITUTE OF RESEARCH
PRESIDIO OF SAN FRANCISCO, CALIFORNIA 94129-6800

REPLY TO
ATTENTION OF:

SGRD-ULZ-QA

19 December 1988

MEMORANDUM FOR RECORD

SUBJECT: GLP Compliance for GLP Study 88001

1. This is to certify that in relation to LAIR GLP Study 88001, the following inspections were made:

27 January 1988	-	Protocol Review
01 June 1988	-	Animal Receipt/Room Inspection
09 June 1988	-	Randomization
13 June 1988	-	Dosing
13 June 1988	-	Observations
15 June 1988	-	Test Chemical Log
16 June 1988	-	Interim Sacrifice
20 June 1988	-	Weighing
27 June 1988	-	Final Sacrifice
14 July 1988	-	Histology

2. The institute report entitled "Acute Intravenous Toxicity Study of Hypertonic Saline/Dextran 70® and Its Constituents in ICR Mice," Toxicology Series 245, was audited on 9 December 1988.

Carolyn M. Lewis

CAROLYN M. LEWIS, MS
Diplomate, American Board of Toxicology
Chief, Quality Assurance

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**Acute Intravenous Toxicity Study of Hypertonic
Saline/Dextran 70® and Its Constituents in ICR Mice --
Frost et al**

INTRODUCTION

During conventional land warfare it has been estimated that 90% of the deaths occur either in the field or en route to a fixed medical treatment facility and that 50% of those deaths occur due to hemorrhage (1). Conventional treatment of hemorrhage has involved infusion of isotonic resuscitation fluids at volumes equivalent to two or three times the volume of blood lost (2). Supplying this volume of resuscitation fluid on the battlefield for treatment of multiple casualties is not feasible.

Hypertonic crystalloid solutions have been used for the past 70 years in the treatment of hemorrhage (3). However, the consensus has been that unless followed by replacement of the lost blood volume, the beneficial effects of treatment with hyperosmotic solutions are transient (4). Recently, the addition of a hyperoncotic colloid, 6% Dextran 70®, to the hypertonic crystalloid, 7.5% saline, has significantly extended 96-hour survival rates compared with those obtained with normal saline or 7.5% saline (5). If the effectiveness of this hypertonic saline/Dextran therapy is verified by clinical trial, it would be a significant advance in the treatment of blood loss due to traumatic injuries.

As with any new treatment regimen, there are potential risks. Low molecular weight dextran may cause bleeding abnormalities and phlebitis or interfere with the cross-matching of blood (6). Hypertonic solutions may cause neurologic abnormalities induced by the rapid increases in osmolalities (7-9) or cardiac arrhythmias induced by the hypokalemia associated with the rapid expansion of extracellular space (2, 10). Consequently, the Division of Toxicology, Letterman Army Institute of Research, was tasked to provide an acute and subchronic toxicity profile of the 7.5% hypertonic saline/6% Dextran 70® resuscitation fluid (HSD). This report describes the results of an acute toxicity study of hypertonic saline/Dextran 70® following intravenous administration of the maximum tolerated dose in male and female ICR mice.

Objective of Study

The objective of this study was to determine the acute toxicity of hypertonic saline/Dextran 70® following intravenous administration in male and female ICR mice.

MATERIALS

Test Substance

Name: Hypertonic saline/Dextran 70® (HSD)

LAIR Compound Code: TP96

Lot Number: NC 54845

Expiration Date: 31 December 1988

Composition per 100 ml: Dextran 70® 6 g
 sodium chloride 7.5 g
 water for injection to 100 ml

Source: Pharmacia LEO Pharmaceuticals
 Uppsala, Sweden

Test Substance Constituents

Name: Hypertonic (7.5%) saline (HS)

LAIR Compound Code: TP98

Lot Number: I 318712

Expiration Date: 31 December 1988

Composition per 100 ml: sodium chloride 7.5 g
 water for injection to 100 ml

Source: Pharmacia LEO Pharmaceuticals
 Uppsala, Sweden

Name: Dextran 70® (D70)

LAIR Compound Code: TP95

Lot Number: NE 54941

Expiration Date: 31 May 1989

Composition per 100 ml: Dextran 70® 6 g
 sodium chloride 0.9 g
 water for injection to 100 ml

Source: Pharmacia LEO Pharmaceuticals
 Uppsala, Sweden

Control

Name: Ringer's lactate (RL)

LAIR Compound Code: TP97

Lot Number: NC 54847

Expiration Date: 31 December 1988

Composition per 100 ml: sodium chloride 600 mg
 potassium chloride 30 mg
 calcium chloride
 dihydrate 20 mg
 sodium lactate 310 mg
 water for injection to 100 ml

Source: Pharmacia LEO Pharmaceuticals
 Uppsala, Sweden

Other test substance information is presented in
 Appendix A.

Animal Data

Forty-two male and 42 female ICR mice (Harlan Sprague-Dawley, Inc., P.O. Box 29176, Indianapolis, IN 46229) were assigned to this study. They were identified individually with neck tags. Two male and 2 female mice were utilized for quality control necropsy. The animal weights on receipt (25 May 88) ranged from 16.5 to 26.9 g. Additional animal data are presented in Appendix B.

Husbandry

Study animals were individually housed in stainless steel battery-type cages with screen bottoms, in racks equipped with automatically flushing dump tanks. The diet, fed *ad libitum*, consisted of Purina Rodent Laboratory Chow® 5001 (Ralston Purina Company, St. Louis, MO); water, purified by reverse osmosis, was provided by continuous drip from a central line. The animal room temperature and humidity were monitored continuously by hygrothermograph. The temperature

was maintained in a range from 23.3°C to 30.0°C. The relative humidity was maintained in a range of 29% to 47% with occasional spikes to as high as 63% during room cleaning. The photoperiod was 12 hours of light per day (0600 - 1800 hours).

METHODS

This study was conducted in accordance with FDA guidelines (11) and LAIR SOP-OP-STX-113, "Acute Intravenous Toxicity Study" (12).

Group Assignment/Acclimation

The animals were randomized into four groups of 10 males and 10 females each. Since animals were to be terminated at two different time intervals following dosing, each group was further divided into 2 subgroups of 5 males and 5 females each (Table 1). Allocation was accomplished using a computer-based, stratified, weight-biased method. The XYBION Path/Tox AESLCT Animal Allocation Program was used in conjunction with a VAX 750 Computer.

Table 1

DOSE GROUPS

Group/Subgroup	Solution	Sacrifice Day
1/1	hypertonic saline/Dextran 70®	3
1/2	hypertonic saline/Dextran 70®	14
2/1	hypertonic saline	3
2/2	hypertonic saline	14
3/1	Dextran 70/normal saline	3
3/2	Dextran 70/normal saline	14
4/1 (controls)	Ringer's lactate	3
4/2 (controls)	Ringer's lactate	14

The male and female study animals were acclimated for 18 and 19 days, respectively, before the day of dosing. During this period they were checked daily for signs of illness, and weighed weekly.

Dose Levels, Preparation, and Analysis

The maximum tolerated intravenous dose of HSD administered over a 5-minute period was determined to be 28 ml/kg in preliminary pilot studies. Equal volumes of HS, D70, and RL were administered to animals in the corresponding dose groups. Solutions were used as supplied by the manufacturer, Pharmacia LEO Pharmaceuticals. Analysis of the dosing solutions was provided by Pharmacia LEO Pharmaceuticals. Additional chemical data are presented in Appendix A.

Test Procedures

The acute intravenous toxicity of hypertonic saline/Dextran 70® (HSD) was evaluated in parallel with solutions of its major constituents, hypertonic (7.5%) saline (HS) and Dextran 70® (6%) in normal saline (D70), with Ringer's lactate (RL) serving as the control. The dosing solutions were administered via the tail veins. Injections were made using tuberculin syringes (Becton Dickinson & Co., Rutherford, NJ 07070, Lot No. 7H355) and 26 gauge, 1/2 inch needles (Becton Dickinson & Co., Rutherford, NJ 07070, Lot No. 1D017). A 12-inch length of PE-20 polyethylene tubing (Clay Adams, Division of Becton Dickinson & Co., Parsippany, NJ 07054, Lot No. 91198, exp. date 8/92) was used to attach a second, hubless needle to the needle on the syringe to facilitate completion of the injections. Immediately following the injection, digital pressure was applied to control any bleeding from the injection site.

Observations

Clinical observations were accomplished 1, 2, and 4 hours after dosing on Day 0, and then at least twice daily for the remainder of the observation period. Body weights were recorded upon receipt of the animals, weekly during the quarantine and observation periods, before dosing, and at necropsy.

Necropsy

Animals that died spontaneously after dosing were immediately submitted for necropsy. Subgroups 1 and 2 animals were submitted for necropsy on Days 3 and 14,

respectively, immediately after sacrifice by barbiturate overdose. Histopathology was performed on the heart, liver, kidney, brain, lung, spleen, and all gross lesions.

Statistical Analysis

Clinical signs were tabulated by groups. The means and standard errors for the body weights for each group were calculated. For Day 0, the equality of the variances for the groups was tested by the Levene test. If equal, the standard one-way analysis of variance was performed. If unequal, the Welch's one-way analysis of variance was performed. For Days 3, 7, and 14, an analysis of covariance was performed with Day 0 body weights as the covariate. If the F-statistic was significant for an analysis of variance or covariance for a particular measurement, differences among the groups were evaluated using the Newman-Keuls test (13). Gross and microscopic pathology findings were described for each animal and tabulated by groups.

Duration of Study

Appendix C is a complete listing of historical events.

Changes/Deviations

The diet consisted of Purina Rodent Laboratory Chow® #5001 instead of Certified Rodent Chow® #5002.

The animal room lights were found on at 2148 hours, 11 Jun 88.

Animals 88C00-01, -08, and -38 of Group 1 were misdosed and received 40 ml/kg HSD instead of 28 ml/kg. Since 88C0008 tolerated the dose, it was not deleted from the data tabulation. Animals 88C00-01 and -38 died from the overdose and were replaced by 88C00-48 and -42, respectively. Due to the nature of XYBION programming, it was not possible to change animal numbers. As a result, the pathology data for these two animals appear under the number of the animal each replaced.

Some tissues were not available for histological evaluation because they were lost or not processed correctly. The following tissues were not available for animal 88C0094: brain, liver, heart, spleen and kidneys.

It is believed that these changes had no adverse effects on the results of this study.

Storage of Raw Data and Final Report

A copy of the final report, study protocol, raw data, retired SOPs, and an aliquot of the test compound will be retained in the Letterman Army Institute of Research Archives.

RESULTS

Clinical Observations

The clinical signs observed were grouped into the following categories: general health, respiratory, behavioral, ocular, reflexive, and miscellaneous.

The most frequently observed signs were in the general health category. Hunched posture (65 of 80 animals) was observed on Day 0 (day of dosing) and was observed in females and males through Days 3 and 4, respectively. Rough coat (36 of 80) was observed on Day 0 in both sexes but predominantly in the males. Rough coat was present through Days 3 and 7 for females and males, respectively. Bruising of the tail was observed in eleven animals (seven males and four females) from both the HSD- and HS-treated groups. Eventual sloughing of the tail distal to the injection site occurred in two HSD and three HS animals. Two HSD animals and one HS animal died within 12 minutes of the start of the infusion.

The second major category of clinical signs observed in the study were respiratory. Increased respiratory rate was observed in 65 of 80 animals on Day 0. The increased respiratory rate was observed until Day 3 in the females and in a majority of male animals; however, there were isolated occurrences of increased respiratory rate in some males observed through Day 7. The increase in respiratory depth was observed in 12 of 80 animals. The increase in respiratory depth occurred primarily on Day 0 in animals receiving HS or D70.

Ocular signs were observed in 23 of 80 animals. The eyes of these animals became pale or a lighter red in color. The pale eyes were observed only on Day 0 and were seen with increased incidence in the groups receiving D70, HSD, and HS compared with the controls.

Behavioral, reflexive, and miscellaneous signs were equally distributed among all groups. Behavioral signs observed included inactivity, hyperactivity, irritability, apprehension, circling, tremors, disorientation, and ataxia.

Only inactivity (16 of 80) and hyperactivity (13 of 80) occurred in an appreciable number of animals. The other behavioral signs were isolated and occurred sporadically among the different groups. Increased startle reflex (reflexive) and nasal staining (miscellaneous) were each observed in one animal.

Table 2 contains a summary of clinical observations. Appendix D contains individual animal histories.

Body Weights

Animal body weights were not significantly ($p \leq 0.05$) affected by dosing. Table 3 presents the mean body weights by group. Appendix E contains individual weight tables.

Necropsy Findings

No gross or microscopic pathological lesions attributable to the test compound or its constituents were reported. The Veterinary Pathologist's report is presented in Appendix F.

DISCUSSION

The acute intravenous toxicity of HSD in mice was evaluated by dosing the animals with an apparent maximum tolerated dose via the tail vein. This dose was established in preliminary studies as 28 ml/kg administered over 5 minutes. This dose, 28 ml/kg, is seven times the proposed therapeutic dose of 4 ml/kg (2). When administered at a rate of 28 ml/kg over 5 minutes, HSD caused death in 1 of 10 males and 1 of 10 females. This suggests that the maximum tolerated dose is less than 28 ml/kg. In addition to dosing with HSD, groups of mice were dosed with equal volumes of HS, D70, or RL. The HS also caused a death in 1 of 10 males dosed which suggests that the HS component is responsible for the lethality of the HSD mixture. The deaths were very rapid occurring within 1 - 12 minutes of the initiation of the infusion. The rapidity of onset and the fact that death was observed only in those groups receiving hypertonic saline suggest that the deaths were due to cardiac dysrhythmias arising from the putative hypokalemia produced by the saline infusions. This is consistent with the observation that dextran is well tolerated when administered intravenously at doses up to 40 ml/kg in various animal models (G. Jonsson, Pharmacia Pharmaceuticals AB, personnel communication).

Table 2

LETTERMAN ARMY INSTITUTE OF RESEARCH CUMULATIVE INCIDENCE SUMMARY FOR CLINICAL OBSERVATIONS*
 DIV OF RES SUPP, PATH SERV GP STUDY NUMBER: 88001 PAGE: 1
 PRESIDIO OF SAN FRANCISCO, CA 94129
 MOUSE/ICR STUDY START DATE: 13-JUN-88 ACUTE/IV

OBSERVATIONS	GROUP:	M A L E S				F E M A L E S			
		RL	HSD	HS	D70	RL	HSD	HS	D70
GENERAL HEALTH /									
HUNCHED POSTURE		8	6	7	10	8	7	10	9
ROUGH COAT		5	4	7	7	4	2	1	6
BRUISED TAIL		0	4	3	0	0	2	2	0
TAIL SLOUGH		0	1	1	0	0	1	2	0
DEATH		0	1	1	0	0	1	0	0
RESPIRATION /									
INCREASED RESPIRATORY RATE		7	7	9	8	9	9	7	9
INCREASED RESPIRATORY DEPTH		1	0	2	4	0	1	2	2
OCULAR /									
EYES PALE		2	5	5	5	1	1	1	3
BEHAVIORAL /									
HYPERACTIVE		1	1	0	1	2	1	4	3
INACTIVE		2	1	3	4	3	1	1	1
DISORIENTED		0	0	1	0	1	1	2	2
ATAXIA		1	0	1	1	1	0	0	2
TREMORS		1	1	0	0	1	0	0	0
IRRITABLE		0	1	0	0	0	0	0	0
APPREHENSIVE		1	0	0	0	0	0	0	0
CIRCLING		0	0	0	0	0	0	1	0
MISCELLANEOUS /									
STAIN NOSE		0	0	0	1	0	0	0	0
REFLEXES /									
INCREASED STARTLE REFLEX		0	0	0	0	0	1	0	0

*DATA PRESENTED AS NUMBER OF ANIMALS AFFECTED.

Table 3
GROUP MEAN BODY WEIGHT (GMS)

GROUP	DAY OF STUDY						
	-18	-13	-7	0	3†	7	14
Males							
1	23.0* ±1.79 (10)	25.6 3.78 (10)	29.5 2.97 (10)	31.8 4.91 (10)	31.7 1.76 (4)	29.5 7.61 (4)	33.0 3.67 (5)
2	23.2 ±2.29 (10)	24.5 5.20 (10)	29.8 2.73 (10)	32.7 2.32 (10)	31.9 2.58 (5)	32.4 1.39 (4)	34.5 1.91 (4)
3	23.7 ±1.80 (10)	26.4 2.08 (10)	29.8 2.87 (10)	32.2 2.62 (10)	31.9 2.80 (5)	31.2 3.04 (5)	28.8 6.76 (5)
4	23.7 ±1.97 (10)	26.2 2.20 (10)	29.1 2.67 (10)	31.2 4.13 (10)	31.4 3.10 (5)	30.7 3.43 (5)	30.4 5.32 (5)
Females*							
1	20.0 ±2.38 (10)	21.4 3.32 (10)	24.8 1.80 (10)	26.7 2.45 (10)	27.2 1.58 (4)	27.2 2.57 (5)	29.2 3.70 (5)
2	20.7 ±2.08 (10)	21.9 2.54 (10)	24.6 1.67 (10)	27.1 1.95 (10)	25.8 1.62 (5)	27.2 1.85 (5)	30.4 0.89 (5)
3	21.5 ±1.27 (10)	22.9 1.81 (10)	24.6 1.60 (10)	26.9 2.30 (10)	28.9 1.57 (5)	26.7 2.40 (5)	28.6 2.51 (5)
4	20.8 ±1.43 (10)	21.7 2.92 (10)	24.7 1.73 (10)	25.4 2.21 (10)	26.9 2.37 (5)	25.3 2.04 (5)	28.4 2.07 (5)

† Day 3 body weights include only interim sacrifice animals.

* Data presented as mean ± standard deviation with the number of animals, n, in parenthesis.

* Days for females = -19, -14, -8, 0, 3, 6, 14.

An equal volume of RL was administered as a control. Since the RL is an isotonic solution it would only permit comparison of the effects of the volume administered. Therefore, differences between the RL group and the HSD, HS, and D70 groups would be attributable to the volume expansion capabilities of the latter groups. The majority of clinical signs whether general health, behavioral, respiratory, reflexive, or miscellaneous in nature, were observed at an equal rate of occurrence in each of the four groups. The two observations, other than death, associated primarily with the volume expanders were pale eyes and tail sloughing. In albino mice, the reddish color of the eyes is associated with the concentration of erythrocytes in the highly vascular retina; thus, the "pale eye" observation would suggest a reduction (or dilution) in the erythrocyte concentration. The increased incidence of pale eyes in the HSD, HS, and D70 groups compared with the LR group is attributed to the hyperosmotic action of these solutions to draw additional fluid into the vascular compartment resulting in a greater dilution of erythrocytes as compared with the LR group. The pale eyes were observed only within the first 24 hours of fluid administration suggesting that fluid balance had returned to normal within this time.

The tail sloughing occurred in two animals receiving HSD and three animals receiving HS. This was attributed to unavoidable extravasation of injection fluid around the site of injection. Assuming that the injection technique was the same for all animals, extravasation occurred in all dose groups. Tail sloughing in HSD and HS, but not in D70 treated animals, suggests that extravascular hypertonic saline causes tissue necrosis by a direct effect rather than indirectly through an increase in extravascular fluid pressure occluding perfusion. The resulting sloughing of the tail distal to the injection site was a consequence of the local necrosis. This finding was unexpected as HSD was not irritating following intravenous, intra-arterial, paravenous, subcutaneous, and intramuscular administration when evaluated in a standard irritation test system (14).

No significant findings associated with any treatment regimen were observed during necropsy at 3 or 14 days after injection of the dosing fluids nor in the histological examination of selected tissues. This suggests that morphological changes, if, in fact, there were any due to the administration of the volume expanders, were transient.

These data suggest that the maximum tolerated dose of HSD when administered intravenously over a 5-minute period is less than 28 ml/kg. The toxicity observed (death in 2 of 20 animals, pale eyes, and tail sloughing) was attributable to

the HS component of the HSD resuscitation fluid and is an expected physiological response to large volumes of hypertonic saline. Since the proposed therapeutic dose of HSD is only 4 ml/kg, these findings indicate that there will be minimal adverse effects associated with the therapeutic administration of HSD.

CONCLUSION

The maximum tolerated dose of HSD following acute intravenous administration is less than 28 ml/kg, and the toxicity associated with the HSD administration is consistent with the administration of large volumes of hypertonic saline. Since the proposed therapeutic dose of HSD is only 4 ml/kg, these findings indicate that there will be minimal adverse effects associated with the therapeutic administration of HSD.

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APPENDICES

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Appendix A: CHEMICAL DATA



Pharmacia

CERTIFICATE OF ANALYSIS 1988-12-19

Product

6 % DEXTRAN 70 IN 7,5 %
SODIUM CHLORIDE INJECTION

Charge No. NC 54845

Inherent viscosity	27 ml/g
Absorbance (375 nm, 10 mm)	0,006
pH	4,6
Heavy metals	< 5 ppm
Sodium chloride	74,7 g/1000 ml
Dextran 70	60 g/1000 ml
Particulate matter	passed test
Sterility	passed test
Pyrogens	passed test

Released for clinical trials.

Pharmacia AB
Analytical Chemistry Department

450/1 Pharmacia Upjohn 1988

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Appendix A (cont.): CHEMICAL DATA



Pharmacia

CERTIFICATE OF ANALYSIS 1988-12-19

Product

7,5 % SODIUM CHLORIDE

Charge No. I 318712

Identification	passed test
Absorbance	0.000
pH	6.0
Heavy metals	< 5 ppm
Sodium chloride	75,0 g/1000 ml
Particulate matter	passed test
Sterility	passed test
Pyrogens	passed test
Released for biological trials.	

Pharmacia AB
Analytical Chemistry Department

L 440/71 Pharmacia (Uppsala, 1988)

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Appendix A (cont.): CHEMICAL DATA



Pharmacia

Certificate of analysis

Name: **MACRODEX** 60 mg/ml in Normal saline

Item No.: 10-4510-00

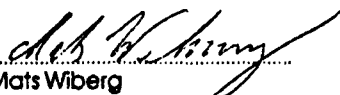
Lot No.: NE 54941

Test		Result	Tolerance limit	Method
Inherent viscosity	ml/g	26	25 - 28	03700
Colour		0.01	Max. 0.04	03811
pH		4.9	4.0 - 7.0	USP XX p. 968
Heavy metals ppm		< 5	Max. 5	USP XX p. 909
Assay for				
- sodium chloride	g/1000ml	8.88	8.10 - 9.90	02355
- dextran 70	g/1000ml	59	54 - 66	02356
Sterility		Passed test	To pass test	02885
Pyrogens		Passed test	To pass test	02983

The identity is assured through strict adherence to established GMP rules throughout the manufacturing procedures.

Released for sale: 1987-05-25

Pharmacia AB
Quality Control Department


Mats Wiberg

M09

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Appendix A (cont.): CHEMICAL DATA



Pharmacia

CERTIFICATE OF ANALYSIS 1988-12-19

Product

LACTATED RINGER'S INJECTION

Charge No. NC 54847

pH	5,8
Heavy metals	< 5 ppm
Sodium	127 mmol/1000 ml
Potassium	3,91 mmol/1000 ml
Calcium	1,30 mmol/1000 ml
Chloride	105,5 mmol/1000 ml
Lactate	27,2 mmol/1000 ml
Particulate matter	passed test
Sterility	passed test
Pyrogens	passed test

Released for clinical trials.

Pharmacia AB
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Appendix B: ANIMAL DATA

Species: *Mus musculus*

Strain: ICR

Source: Harlan Sprague-Dawley, Inc.
P.O.Box 29176
Indianapolis, IN 46229

Sex: Male and Female

Date of birth: 22 Apr 88

Method of randomization: Weight bias, stratified animal allocation (XYBION Medical Systems PATH/TOX AESLCT Animal Allocation program)

Animals in each group: 10 Males and 10 Females

Condition of animals at start of study: Normal

Body weight range at dosing:	Males	18.8 - 36.7 g
	Females	21.9 - 30.9 g

Identification procedures: Neck tag

Pretest conditioning: Quarantine/acclimation 26 May 1988 to 12/13 June 1988 (males/females)

Justification: The laboratory mouse is a standard laboratory model for acute toxicity studies and is accepted by all regulatory agencies.

Appendix C: HISTORICAL LISTING OF STUDY EVENTS

<u>Date</u>	<u>Event</u>
25 May 88	Animals arrived at LAIR. They were sexed, observed for illness, and caged in the GLP Suite. Eighty animals were assigned to the study.
27 May 88	Animals were tagged.
26, 31 May 88 6, 13, 14, 16(a) 17(a), 20(b) 27(b), 28(b) Jun 88	Animals were weighed.
31 May 88	Quality control animals were submitted for necropsy.
26 May 88- 27 Jun 88	Animals were observed twice daily.
9 Jun 88	Remaining animals were randomized into groups.
13, 14 Jun 88	Animals were dosed at approximately 0900 hours. Observations were conducted one, two, and four hours after dosing.
16(a), 17(a) 27(b), 28(b) Jun 88	Food was removed by 0600 hours. Animals were observed for clinical signs at approximately 0730 hours. Animals were delivered to the Necropsy Suite for euthanasia and necropsy.

Appendix D: INDIVIDUAL ANIMAL HISTORIES

The protocol schedule refers to the day of dosing as Day 0. Since XYBION programming refers to the day of dosing as Day 1, a one-day discrepancy exists between the actual study day and the day listed in the Individual Animal Histories. The following table lists the actual study day and the corresponding day which appears in Appendix D under "STUDY DAY/TIME DATA WERE TAKEN".

	<u>STUDY DAY</u>	<u>XYBION</u>
Dosing	0	1
	1	2
	2	3
Interim Sacrifice	3	4
	4	5
	5	6
	6	7
	7	8
	8	9
	9	10
	10	11
	11	12
	12	13
	13	14
Terminal Sacrifice	14	15

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

ACUTE/IV

CAGE #	ANIMAL	GROUP/ SUBGROUP	DATE DATA WERE ENTERED	TIME DATA WERE ENTERED	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
1	88C0048	M 1/1	13-JUN-88	12:55	1 / 10:23	3 GENERAL HEALTH / ROUGH COAT	3
						OCULAR / EYES PALE	1
			20-SEP-88	12:28	1 / 11:23	3 RESPIRATION / INCREASED RESPIRATORY RATE	3
						3 GENERAL HEALTH / ROUGH COAT	3
			20-SEP-88	14:51	1 / 13:26	3 RESPIRATION / INCREASED RESPIRATORY RATE	3
						3 GENERAL HEALTH / ROUGH COAT	3
						BEHAVIORAL / INACTIVE	1
			20-SEP-88	14:53	2 / 08:13	3 RESPIRATION / INCREASED RESPIRATORY RATE	3
			20-SEP-88	14:54	2 / 13:24	3 GENERAL HEALTH / BRUISED TAIL	3
			20-SEP-88	14:55	3 / 10:00	3 GENERAL HEALTH / BRUISED TAIL	3
			20-SEP-88	15:02	4 / 07:30	3 GENERAL HEALTH / BRUISED TAIL	5
						SACRIFICE / EUTHANIZED	+
2	88C0042	M 1/1	13-JUN-88	12:57	1 / 10:20	3 OCULAR / EYES PALE	1
			13-JUN-88	14:02	1 / 11:23	11 RESPIRATION / INCREASED RESPIRATORY RATE	1
			20-SEP-88	14:51	1 / 13:25	3 RESPIRATION / INCREASED RESPIRATORY RATE	1
			20-SEP-88	14:53	2 / 08:09	3 RESPIRATION / INCREASED RESPIRATORY RATE	1
			20-SEP-88	14:54	2 / 13:21	3 RESPIRATION / INCREASED RESPIRATORY RATE	1
			20-SEP-88	14:55	3 / 10:00	3 RESPIRATION / INCREASED RESPIRATORY RATE	1
			20-SEP-88	15:03	4 / 07:30	3 SACRIFICE / NORMAL / EUTHANIZED	1
3	88C0008	M 1/1	13-JUN-88	13:02	1 / 09:39	3 GENERAL HEALTH / HUNCHED POSTURE	+
						/ ROUGH COAT	3
						OCULAR / EYES PALE	5
			13-JUN-88	14:04	1 / 10:40	11 RESPIRATION / INCREASED RESPIRATORY RATE	1
						3 GENERAL HEALTH / HUNCHED POSTURE	3
						OCULAR / EYES PALE	3
						RESPIRATION / INCREASED RESPIRATORY RATE	5

* KEY TO SEVERITY GRADE: + = NOT GRADED; 1 = VERY SLIGHT; 2 = SLIGHT; 3 = MODERATE; 4 = SEVERE; 5 = VERY SEVERE

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STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

ACUTE/IV

[illegible]

NUMBER	SEX	SUBGROUP	DATA WERE ENTERED	DATA WERE TAKEN	# CLINICAL OBSERVATIONS
1	M	1	1	1	1
2	F	2	2	2	2
3	M	3	3	3	3
4	F	4	4	4	4
5	M	5	5	5	5
6	F	6	6	6	6
7	M	7	7	7	7
8	F	8	8	8	8
9	M	9	9	9	9
10	F	10	10	10	10
11	M	11	11	11	11
12	F	12	12	12	12
13	M	13	13	13	13
14	F	14	14	14	14
15	M	15	15	15	15
16	F	16	16	16	16
17	M	17	17	17	17
18	F	18	18	18	18
19	M	19	19	19	19
20	F	20	20	20	20
21	M	21	21	21	21
22	F	22	22	22	22
23	M	23	23	23	23
24	F	24	24	24	24
25	M	25	25	25	25
26	F	26	26	26	26
27	M	27	27	27	27
28	F	28	28	28	28
29	M	29	29	29	29
30	F	30	30	30	30
31	M	31	31	31	31
32	F	32	32	32	32
33	M	33	33	33	33
34	F	34	34	34	34
35	M	35	35	35	35
36	F	36	36	36	36
37	M	37	37	37	37
38	F	38	38	38	38
39	M	39	39	39	39
40	F	40	40	40	40
41	M	41	41	41	41
42	F	42	42	42	42
43	M	43	43	43	43
44	F	44	44	44	44
45	M	45	45	45	45
46	F	46	46	46	46
47	M	47	47	47	47
48	F	48	48	48	48
49	M	49	49	49	49
50	F	50	50	50	50
51	M	51	51	51	51
52	F	52	52	52	52
53	M	53	53	53	53
54	F	54	54	54	54
55	M	55	55	55	55
56	F	56	56	56	56
57	M	57	57	57	57
58	F	58	58	58	58
59	M	59	59	59	59
60	F	60	60	60	60
61	M	61	61	61	61
62	F	62	62	62	62
63	M	63	63	63	63
64	F	64	64	64	64
65	M	65	65	65	65
66	F	66	66	66	66
67	M	67	67	67	67
68	F	68	68	68	68
69	M	69	69	69	69
70	F	70	70	70	70
71	M	71	71	71	71
72	F	72	72	72	72
73	M	73	73	73	73
74	F	74	74	74	74
75	M	75	75	75	75
76	F	76	76	76	76
77	M	77	77		

*SEV.
GRADE

3	88C0008	M	1/1	13-JUN-88	14:44	1	1 / 12:39	11	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT / BRUISED TAIL
									OCULAR / EYES PALE
									RESPIRATION / INCREASED RESPIRATORY RATE
				14-JUN-88	09:37	2	2 / 08:14	3	GENERAL HEALTH / ROUGH COAT / BRUISED TAIL
									RESPIRATION / INCREASED RESPIRATORY RATE
				14-JUN-88	14:34	2	2 / 13:28	9	GENERAL HEALTH / ROUGH COAT / BRUISED TAIL
									RESPIRATION / INCREASED RESPIRATORY RATE
				15-JUN-88	10:51	3	3 / 10:00	9	GENERAL HEALTH / BRUISED TAIL
									RESPIRATION / INCREASED RESPIRATORY RATE
				16-JUN-88	11:40	4	4 /	9	GENERAL HEALTH / BRUISED TAIL
									RESPIRATION / INCREASED RESPIRATORY RATE
									SACRIFICE / EUTHANIZED
4	88C0027	M	1/1	13-JUN-88	13:04	1	1 / 10:45	3	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT
									OCULAR / EYES PALE
				13-JUN-88	14:04	1	1 / 11:41	11	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT
									RESPIRATION / INCREASED RESPIRATORY RATE
				13-JUN-88	14:45	1	1 / 13:40	11	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT
									RESPIRATION / INCREASED RESPIRATORY RATE
				14-JUN-88	09:38	2	2 / 08:14	3	GENERAL HEALTH / ROUGH COAT
				14-JUN-88	14:34	2	2 / 13:30	9	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT
									RESPIRATION / INCREASED RESPIRATORY RATE
				15-JUN-88	10:53	3	3 / 10:00	9	GENERAL HEALTH / HUNCHED POSTURE
				16-JUN-88	11:41	4	4 / 07:30	3	SACRIFICE / NORMAL / EUTHANIZED
5	88C0035	M	1/1	13-JUN-88	13:05	1	1 / 09:49	3	SACRIFICE / FOUND DEAD
6	88C0043	M	1/2	13-JUN-88	13:07	1	1 / 10:36	3	GENERAL HEALTH / HUNCHED POSTURE
									RESPIRATION / INCREASED RESPIRATORY RATE
				13-JUN-88	14:05	1	1 / 11:41	11	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT
									RESPIRATION / INCREASED RESPIRATORY RATE

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88 ACUTE/IV

CAGE #	ANIMAL #	GROUP/ SUBGROUP	DATE DATA WERE ENTERED	TIME DATA WERE ENTERED	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE	
6	88C0043	M	1/2	13-JUN-88	14:46	1 / 13:39	11 GENERAL HEALTH / HUNCHED POSTURE	1
				14-JUN-88	09:38	2 / 08:15	3 RESPIRATION / INCREASED RESPIRATORY RATE	3
				14-JUN-88	14:34	2 / 13:32	9 RESPIRATION / INCREASED RESPIRATORY RATE	1
				15-JUN-88	10:53	3 / 10:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				16-JUN-88	11:48	4 / 11:04	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				17-JUN-88	11:01	5 / 09:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				18-JUN-88	13:06	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				19-JUN-88	13:54	7 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				20-JUN-88	13:10	8 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	+
				21-JUN-88	11:05	9 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				22-JUN-88	13:24	10 / 13:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				23-JUN-88	11:28	11 / 07:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				24-JUN-88	09:37	12 / 09:09	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				25-JUN-88	08:22	13 / 07:58	11 NORMAL / NO SIGNIFICANT FINDINGS	+
				26-JUN-88	10:23	14 / 09:56	11 NORMAL / NO SIGNIFICANT FINDINGS	+
7	88C0011	M	1/2	27-JUN-88	...	15 / 07:30	SACRIFICE / NORMAL / EUTHANIZED	+
				13-JUN-88	13:14	1 / 10:42	3 BEHAVIORAL / IRRITABLE / TREMORS	3
				13-JUN-88	14:05	1 / 11:41	11 BEHAVIORAL / IRRITABLE / TREMORS	1
				13-JUN-88	14:46	1 / 13:42	3 RESPIRATION / INCREASED RESPIRATORY RATE	1
				14-JUN-88	09:38	2 / 08:15	3 BEHAVIORAL / IRRITABLE	1
				14-JUN-88	14:35	2 / 13:35	9 RESPIRATION / INCREASED RESPIRATORY RATE	3
				15-JUN-88	10:53	3 / 10:00	9 GENERAL HEALTH / BRUISED TAIL	1
				16-JUN-88	11:48	4 / 11:04	9 RESPIRATION / INCREASED RESPIRATORY RATE	1
				17-JUN-88	11:02	5 / 09:03	9 GENERAL HEALTH / BRUISED TAIL	1
				18-JUN-88	13:06	6 / 12:00	9 GENERAL HEALTH / BRUISED TAIL	1
				19-JUN-88	13:55	7 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				19-JUN-88	13:55	7 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+

* KEY TO SEVERITY GRADE: + = NOT GRADED; 1 = VERY SLIGHT; 2 = SLIGHT; 3 = MODERATE; 4 = SEVERE; 5 = VERY SEVERE

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

ACUTE/IV

CAGE #	ANIMAL NUMBER	SEX	GROUP	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
7	88C0011	M	1/2	20-JUN-88	13:11	8 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	+
				21-JUN-88	11:05	9 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				22-JUN-88	13:24	10 / 13:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				23-JUN-88	11:28	11 / 07:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				24-JUN-88	09:37	12 / 09:07	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				25-JUN-88	08:23	13 / 07:59	11 NORMAL / NO SIGNIFICANT FINDINGS	+
				26-JUN-88	10:23	14 / 09:57	11 NORMAL / NO SIGNIFICANT FINDINGS	+
				27-JUN-88	...	15 / 07:30	SACRIFICE / NORMAL / EUTHANIZED	+
8	88C0023	M	1/2	13-JUN-88	13:16	1 / 10:48	3 GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / HYPERACTIVE	1
				13-JUN-88	14:06	1 / 11:48	11 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE	3
				13-JUN-88	14:46	1 / 13:48	11 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE	3
				14-JUN-88	09:39	2 / 08:16	3 RESPIRATION / INCREASED RESPIRATORY RATE NORMAL / NO SIGNIFICANT FINDINGS	+
				14-JUN-88	14:35	2 / 13:26	9 GENERAL HEALTH / BRUISED TAIL	1
				15-JUN-88	10:55	3 / 10:00	9 GENERAL HEALTH / TAIL NECROSIS	3
				16-JUN-88	11:49	4 / 11:05	9 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
				17-JUN-88	11:02	5 / 09:04	9 GENERAL HEALTH / TAIL NECROSIS / TAIL NECROSIS	1
				18-JUN-88	13:07	6 / 12:00	9 GENERAL HEALTH / BRUISED TAIL NORMAL / NO SIGNIFICANT FINDINGS	3
				19-JUN-88	13:55	7 / 12:00	9 TAIL SLOUGH NORMAL / NO SIGNIFICANT FINDINGS	+
				20-JUN-88	13:11	8 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	+
				21-JUN-88	11:05	9 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				22-JUN-88	13:24	10 / 13:00	9 GENERAL HEALTH / TAIL NECROSIS	5

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88 ACUTE/IV

CAGE #	ANIMAL #	GROUP/ SUBGROUP	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE	
8	88C0023	M	1/2	23-JUN-88	11:28	11 / 07:30	9 GENERAL HEALTH / TAIL NECROSIS	5
				24-JUN-88	09:37	12 / 09:07	9 GENERAL HEALTH / TAIL NECROSIS	5
				25-JUN-88	08:25	13 / 07:59	11 GENERAL HEALTH / TAIL NECROSIS	5
				26-JUN-88	10:23	14 / 09:57	11 GENERAL HEALTH / TAIL NECROSIS	5
				27-JUN-88	...	15 / 07:30	GENERAL HEALTH / TAIL NECROSIS	5
							SACRIFICE / EUTHANIZED	+
9	88C0003	M	1/2	13-JUN-88	13:16	1 / 10:54	3 GENERAL HEALTH / HUNCHED POSTURE	3
				13-JUN-88	14:06	1 / 11:53	11 OCULAR / EYES PALE	1
							OCULAR / EYES PALE	3
				13-JUN-88	14:47	1 / 13:54	11 GENERAL HEALTH / HUNCHED POSTURE	1
				14-JUN-88	09:39	2 / 08:17	3 GENERAL HEALTH / HUNCHED POSTURE	1
				14-JUN-88	14:35	2 / 13:40	9 NORMAL / NO SIGNIFICANT FINDINGS	+
10	88C0012	M	1/2	15-JUN-88	10:55	3 / 10:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				16-JUN-88	11:49	4 / 11:04	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				17-JUN-88	11:02	5 / 09:06	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				18-JUN-88	13:07	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				19-JUN-88	13:55	7 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	-
				20-JUN-88	13:11	8 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	-
				21-JUN-88	11:05	9 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				22-JUN-88	13:25	10 / 13:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				23-JUN-88	11:28	11 / 07:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				24-JUN-88	09:37	12 / 09:07	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				25-JUN-88	08:26	13 / 08:00	11 NORMAL / NO SIGNIFICANT FINDINGS	+
				26-JUN-88	10:23	14 / 09:57	11 NORMAL / NO SIGNIFICANT FINDINGS	+
				27-JUN-88	...	15 / 07:30	SACRIFICE / NORMAL / EUTHANIZED	+
							GENERAL HEALTH / HUNCHED POSTURE	1
10	88C0012	M	1/2	13-JUN-88	14:06	1 / 11:55	11 RESPIRATION / INCREASED RESPIRATORY RATE	1
							GENERAL HEALTH / HUNCHED POSTURE	1
				13-JUN-88	14:47	1 / 13:54	11 RESPIRATION / INCREASED RESPIRATORY RATE	1
							RESPIRATION / INCREASED RESPIRATORY RATE	3

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

ACUTE/IV

STUDY START DATE: 13-JUN-88

[illegible]

CLINICAL OBSERVATIONS

*SEV.
GRADE

10	88C0012	M	1/2	14-JUN-88	09:39	2 / ...	3	NORMAL / NO SIGNIFICANT FINDINGS	+
				14-JUN-88	14:35	2 / 13:41	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				15-JUN-88	10:55	3 / 10:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				16-JUN-88	11:49	4 / 11:06	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				17-JUN-88	11:02	5 / 09:07	9	NORMAL / NO SIGNIFICANT FINDINGS	-
				18-JUN-88	13:07	6 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				19-JUN-88	13:55	7 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				20-JUN-88	13:11	8 / 12:30	10	NORMAL / NO SIGNIFICANT FINDINGS	+
				21-JUN-88	11:05	9 / 10:45	9	NORMAL / NO SIGNIFICANT FINDINGS	-
				22-JUN-88	13:25	10 / 13:00	9	NORMAL / NO SIGNIFICANT FINDINGS	-
				23-JUN-88	11:28	11 / 07:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				24-JUN-88	09:38	12 / 09:11	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				25-JUN-88	08:26	13 / 08:00	11	NORMAL / NO SIGNIFICANT FINDINGS	-
				26-JUN-88	10:24	14 / 09:58	11	NORMAL / NO SIGNIFICANT FINDINGS	-
				27-JUN-88	...	15 / 07:30		SACRIFICE / NORMAL / ETHANIZED	+
11	88C0046	M	2/1	13-JUN-88	13:18	1 / 10:58	3	GENERAL HEALTH / HUNCHED POSTURE	3
								/ ROUGH COAT	3
				13-JUN-88	14:26	1 / 11:56	11	GENERAL HEALTH / HUNCHED POSTURE	3
								/ ROUGH COAT	3
								RESPIRATION / INCREASED RESPIRATORY RATE	3
				13-JUN-88	14:49	1 / 13:56	3	GENERAL HEALTH / HUNCHED POSTURE	3
								/ ROUGH COAT	3
								BEHAVIORAL / INACTIVE	1
								RESPIRATION / INCREASED RESPIRATORY RATE	3
								/ INCREASED RESPIRATORY DEPTH	1
				14-JUN-88	09:40	2 / 08:18	3	GENERAL HEALTH / HUNCHED POSTURE	1
								/ ROUGH COAT	3
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				14-JUN-88	14:36	2 / 13:42	9	GENERAL HEALTH / HUNCHED POSTURE	1
								/ ROUGH COAT	3
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				15-JUN-88	10:55	3 / 10:00	3	GENERAL HEALTH / ROUGH COAT	1
								RESPIRATION / INCREASED RESPIRATORY RATE	1

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ACUTE/IV

CAGE	ANIMAL	GROUP/	DATE	AND	TIME	STUDY DAY/TIME OPER.
1	1	1	1	1	1	1
2	2	2	2	2	2	2
3	3	3	3	3	3	3
4	4	4	4	4	4	4
5	5	5	5	5	5	5
6	6	6	6	6	6	6
7	7	7	7	7	7	7
8	8	8	8	8	8	8
9	9	9	9	9	9	9
10	10	10	10	10	10	10
11	11	11	11	11	11	11
12	12	12	12	12	12	12
13	13	13	13	13	13	13
14	14	14	14	14	14	14
15	15	15	15	15	15	15
16	16	16	16	16	16	16
17	17	17	17	17	17	17
18	18	18	18	18	18	18
19	19	19	19	19	19	19
20	20	20	20	20	20	20
21	21	21	21	21	21	21
22	22	22	22	22	22	22
23	23	23	23	23	23	23
24	24	24	24	24	24	24
25	25	25	25	25	25	25
26	26	26	26	26	26	26
27	27	27	27	27	27	27
28	28	28	28	28	28	28
29	29	29	29	29	29	29
30	30	30	30	30	30	30
31	31	31	31	31	31	31
32	32	32	32	32	32	32
33	33	33	33	33	33	33
34	34	34	34	34	34	34
35	35	35	35	35	35	35
36	36	36	36	36	36	36
37	37	37	37	37	37	37
38	38	38	38	38	38	38
39	39	39	39	39	39	39
40	40	40	40	40	40	40
41	41	41	41	41	41	41
42	42	42	42	42	42	42
43	43	43	43	43	43	43
44	44	44	44	44	44	44
45	45	45	45	45	45	45
46	46	46	46	46	46	46
47	47	47	47	47	47	47
48	48	48	48	48	48	48
49	49	49	49	49	49	49
50	50	50	50	50	50	50
51	51	51	51	51	51	51
52	52	52	52	52	52	52
53	53	53	53	53	53	53
54	54	54	54	54	54	54
55	55	55	55	55	55	55
56	56	56	56	56	56	56
57	57	57	57	57	57	57
58	58	58	58	58	58	58
59	59	59	59	59	59	59
60	60	60	60	60	60	60
61	61	61	61	61	61	61
62	62	62	62	62	62	62
63	63	63	63	63	63	63
64	64	64	64	64	64	64
65	65	65	65	65	65	

CLINICAL OBSERVATIONS

*SEV.
GRADE

11	88C0046	M	2/1	16-JUN-88	11:50	4 / 07030	3	GENERAL HEALTH / ROUGH COAT RESPIRATION / INCREASED RESPIRATORY RATE SACRIFICE / EUTHANIZED	3 1 +
12	88C0014	M	2/1	13-JUN-88	13:21	1 / 11:02	3	BEHAVIORAL / DISORIENTED OCULAR / EYES PALE RESPIRATION / INCREASED RESPIRATORY RATE	1 1 1
				13-JUN-88	14:27	1 / 12:02	11	GENERAL HEALTH / ROUGH COAT BEHAVIORAL / DISORIENTED	1 3
				13-JUN-88	14:49	1 / 14:02	11	RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT BEHAVIORAL / DISORIENTED	3 1 3 1
				14-JUN-88	09:40	2 / 08:12	3	RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE	3 1
				14-JUN-88	14:36	2 /	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				15-JUN-88	10:55	3 / 10:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				16-JUN-88	11:51	4 / 07:30	9	GENERAL HEALTH / ROUGH COAT SACRIFICE / EUTHANIZED	1 +
13	88C0037	M	2/1	13-JUN-88	13:22	1 / 11:04	3	OCULAR / EYES PALE RESPIRATION / INCREASED RESPIRATORY RATE	3 3
				13-JUN-88	14:27	1 / 12:03	3	RESPIRATION / INCREASED RESPIRATORY RATE	3
				13-JUN-88	14:50	1 / 14:03	11	GENERAL HEALTH / ROUGH COAT RESPIRATION / INCREASED RESPIRATORY RATE	1 3
				14-JUN-88	09:40	2 / 08:20	3	GENERAL HEALTH / ROUGH COAT RESPIRATION / INCREASED RESPIRATORY RATE	1 1
				14-JUN-88	14:36	2 / 13:46	9	GENERAL HEALTH / ROUGH COAT RESPIRATION / INCREASED RESPIRATORY RATE	1 1
				15-JUN-88	10:56	3 / 10:00	9	GENERAL HEALTH / BRUISED TAIL RESPIRATION / INCREASED RESPIRATORY RATE	1 1
				16-JUN-88	11:52	4 / 07:30	9	GENERAL HEALTH / ROUGH COAT RESPIRATION / INCREASED RESPIRATORY RATE / BRUISED TAIL	1 1 3
								RESPIRATION / INCREASED RESPIRATORY RATE SACRIFICE / EUTHANIZED	1 1 +

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

ACUTE/IV

CAGE #	ANIMAL	GROUP/SEX	DATE	TIME	STUDY DAY/TIME OPER.	ENTERED DATA WERE TAKEN	#	CLINICAL OBSERVATIONS	*SEV. GRADE
14	88C0020	M	2/1	13-JUN-88	13:23	1 / 11:11	3	GENERAL HEALTH / ROUGH COAT OCULAR / EYES PALE RESPIRATION / INCREASED RESPIRATORY RATE	3 1 3
				13-JUN-88	14:27	1 / 12:11	11	GENERAL HEALTH / ROUGH COAT OCULAR / EYES PALE RESPIRATION / INCREASED RESPIRATORY RATE	3 1 3
				13-JUN-88	14:51	1 / 14:04	3	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT BEHAVIORAL / INACTIVE RESPIRATION / INCREASED RESPIRATORY RATE	3 1 3 3
				14-JUN-88	09:41	2 / 08:21	3	GENERAL HEALTH / ROUGH COAT RESPIRATION / INCREASED RESPIRATORY RATE	1 1
				14-JUN-88	14:36	2 / 13:42	9	GENERAL HEALTH / ROUGH COAT RESPIRATION / INCREASED RESPIRATORY RATE	1 1
				15-JUN-88	10:57	3 / 10:00	9	RESPIRATION / INCREASED RESPIRATORY RATE	1
				16-JUN-88	11:53	4 / 07:30	9	GENERAL HEALTH / ROUGH COAT / BRUISED TAIL SACRIFICE / EUTHANIZED	1 1 +
15	88C0029	M	2/1	13-JUN-88	13:23	1 / 11:12	3	GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE	3 3
				13-JUN-88	14:29	1 / 12:12	11	GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / INACTIVE RESPIRATION / INCREASED RESPIRATORY DEPTH	3 3 3
				13-JUN-88	14:52	1 / 14:10	11	GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / INACTIVE RESPIRATION / INCREASED RESPIRATORY RATE	3 3 1
				14-JUN-88	09:41	2 / 08:23	3	NORMAL / NO SIGNIFICANT FINDINGS	1
				14-JUN-88	14:37	2 / 14:50	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				15-JUN-88	10:57	3 / 10:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				16-JUN-88	11:54	4 / 07:30	9	SACRIFICE / NORMAL / EUTHANIZED	+

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PRINTED: 21-SEP-88

CAGE ANIMAL		GROUP/ DATE AND TIME STUDY DAY/TIME OPER.		STUDY START DATE: 13-JUN-88		ACUTE/IV	
#	NUMBER SEX	GROUP	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
16	88C0045 M	2/2	13-JUN-88	13:25	1 / 11:15	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
			13-JUN-88	14:38	1 / 12:15	11 RESPIRATION / INCREASED RESPIRATORY RATE / HUNCHED POSTURE / ROUGH COAT	1
			13-JUN-88	14:53	1 / 14:13	11 RESPIRATION / INCREASED RESPIRATORY RATE / HUNCHED POSTURE / ROUGH COAT	3
			14-JUN-88	09:41	2 / 08:24	3 RESPIRATION / INCREASED RESPIRATORY RATE / ROUGH COAT	1
			14-JUN-88	14:37	2 / 13:51	9 RESPIRATION / INCREASED RESPIRATORY RATE / ROUGH COAT	5
			15-JUN-88	10:58	3 / 10:00	9 GENERAL HEALTH / BRUISED TAIL	3
			16-JUN-88	11:54	4 / 11:07	9 GENERAL HEALTH / BRUISED TAIL	5
			17-JUN-88	11:03	5 / 09:08	9 RESPIRATION / INCREASED RESPIRATORY RATE / ROUGH COAT	1
			18-JUN-88	13:08	6 / 12:00	9 GENERAL HEALTH / BRUISED TAIL	1
			19-JUN-88	13:56	7 / 12:00	9 GENERAL HEALTH / BRUISED TAIL	5
			20-JUN-88	13:12	8 / 12:30	10 GENERAL HEALTH / BRUISED TAIL	5
			21-JUN-88	11:05	9 / 10:45	9 GENERAL HEALTH / BRUISED TAIL	5
			22-JUN-88	13:25	10 / 13:00	9 GENERAL HEALTH / BRUISED TAIL	5
			23-JUN-88	11:29	11 / 07:30	9 GENERAL HEALTH / BRUISED TAIL	5
			24-JUN-88	09:38	12 / 09:11	9 GENERAL HEALTH / TAIL NECROSIS	5
			25-JUN-88	08:28	13 / 08:01	11 GENERAL HEALTH / TAIL NECROSIS	5
			26-JUN-88	10:24	14 / 09:58	11 GENERAL HEALTH / TAIL NECROSIS	5
			27-JUN-88	...	15 / 07:30	SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)	+

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CAGE ANIMAL GROUP/ DATE AND TIME STUDY DAY/TIME OPER.

NUMBER SEX SUBGROUP DATA WERE ENTERED DATA WERE TAKEN # CLINICAL OBSERVATIONS

*SEV.
GRADE

17	88C0022	M	2/2	13-JUN-88	13:26	1 / 11:16	3	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
								OCULAR / EYES PALE	5
								RESPIRATION / INCREASED RESPIRATORY RATE	3
				13-JUN-88	14:38	1 / 12:17	11	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
								OCULAR / EYES PALE	5
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				13-JUN-88	14:54	1 / 14:15	11	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
								RESPIRATION / INCREASED RESPIRATORY RATE	5
				14-JUN-88	09:42	2 / 08:25	3	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				14-JUN-88	14:37	2 / 13:52	9	GENERAL HEALTH / ROUGH COAT	1
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				15-JUN-88	10:58	3 / 10:00	9	RESPIRATION / INCREASED RESPIRATORY RATE	1
				16-JUN-88	11:55	4 / 11:08	9	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				17-JUN-88	11:03	5 / 09:11	9	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				18-JUN-88	13:08	6 / 12:00	9	GENERAL HEALTH / ROUGH COAT	1
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				19-JUN-88	13:56	7 / 12:00	9	GENERAL HEALTH / ROUGH COAT	1
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				20-JUN-88	13:12	8 / 12:30	10	GENERAL HEALTH / ROUGH COAT	1
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				21-JUN-88	11:06	9 / 10:45	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				22-JUN-88	13:25	10 / 13:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				23-JUN-88	11:29	11 / 07:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				24-JUN-88	09:39	12 / 09:12	9	NORMAL / NO SIGNIFICANT FINDINGS	+

* KEY TO SEVERITY GRADE: + = NOT GRADED; 1 = VERY SLIGHT; 2 = SLIGHT; 3 = MODERATE; 4 = SEVERE; 5 = VERY SEVERE

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88 ACUTE/IV

CAGE #	ANIMAL	GROUP/SEX	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
17	88C0022	M 2/2	25-JUN-88	08:28	13 / 08:01	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			26-JUN-88	10:24	14 / 09:58	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			27-JUN-88	...	15 / 07:30	SACRIFICE / NORMAL / EUTHANIZED	+
18	88C0009	M 2/2	13-JUN-88	13:28	1 / 11:17	3 BEHAVIORAL / ATAXIA	1
						RESPIRATION / INCREASED RESPIRATORY RATE	3
			13-JUN-88	14:39	1 / 12:19	11 RESPIRATION / INCREASED RESPIRATORY RATE	1
			13-JUN-88	14:54	1 / 14:19	11 RESPIRATION / INCREASED RESPIRATORY RATE	3
			14-JUN-88	09:42	2 / 08:25	3 NORMAL / NO SIGNIFICANT FINDINGS	+
			14-JUN-88	14:38	2 / 13:54	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			15-JUN-88	10:58	3 / 10:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			16-JUN-88	11:55	4 / 11:08	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			17-JUN-88	11:03	5 / 09:13	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			18-JUN-88	13:08	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			19-JUN-88	13:56	7 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			20-JUN-88	13:12	8 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	+
			21-JUN-88	11:06	9 / 10:05	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			22-JUN-88	13:25	10 / 13:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88	11:29	11 / 07:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			24-JUN-88	09:39	12 / 09:12	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			25-JUN-88	08:28	13 / 08:02	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			26-JUN-88	10:24	14 / 09:59	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			27-JUN-88	...	15 / 07:30	SACRIFICE / NORMAL / EUTHANIZED	+
19	88C0016	M 2/2	13-JUN-88	13:28	1 / 10:24	3 SACRIFICE / FOUND DEAD	+
20	88C0041	M 2/2	13-JUN-88	13:30	1 / 11:20	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
						OCULAR / EYES PALE	3
						RESPIRATION / INCREASED RESPIRATORY RATE	1
			13-JUN-88	14:40	1 / 12:21	11 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
						RESPIRATION / INCREASED RESPIRATORY RATE	3
			13-JUN-88	14:55	1 / 14:20	11 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
						RESPIRATION / INCREASED RESPIRATORY RATE	3

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STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

ACUTE/IV

CAGE #	ANIMAL	GROUP/SEX	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
20	88C0041	M 2/2	14-JUN-88	09:43	2 / 08:28	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
			14-JUN-88	14:38	2 / 13:55	9 RESPIRATION / INCREASED RESPIRATORY RATE	1
			15-JUN-88	10:59	3 / 10:00	9 RESPIRATION / INCREASED RESPIRATORY RATE	3
			16-JUN-88	11:55	4 / 11:09	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			17-JUN-88	11:03	5 / 09:14	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			18-JUN-88	13:08	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			19-JUN-88	13:57	7 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			20-JUN-88	13:13	8 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	+
			21-JUN-88	11:06	9 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			22-JUN-88	13:25	10 / 13:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88	11:29	11 / 07:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			24-JUN-88	09:39	12 / 09:13	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			25-JUN-88	08:29	13 / 08:02	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			26-JUN-88	10:24	14 / 09:59	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			27-JUN-88	...	15 / 07:30	SACRIFICE / NORMAL / EUTHANIZED	+
21	88C0036	M 3/1	13-JUN-88	13:32	1 / 11:27	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
			13-JUN-88	14:08	1 / 12:26	11 OCULAR / EYES PALE	5
			13-JUN-88	14:57	1 / 14:27	11 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
			14-JUN-88	09:43	2 / 08:05	3 NORMAL / NO SIGNIFICANT FINDINGS	5
			14-JUN-88	14:38	2 / 13:57	9 GENERAL HEALTH / ROUGH COAT	1
			15-JUN-88	11:00	3 / 10:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			16-JUN-88	11:55	4 / 07:30	9 GENERAL HEALTH / ROUGH COAT	1
						SACRIFICE / EUTHANIZED	+

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88 ACUTE/IV

CAGE ANIMAL	GROUP/	DATE AND TIME	STUDY DAY/TIME OPER.	#	NUMBER SEX	SUBGROUP DATA WERE ENTERED DATA WERE TAKEN #	CLINICAL OBSERVATIONS	*SEV. GRADE
22	88C0044	M	3/1	13-JUN-88	13:34	1 / 11:28	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
							OCULAR / EYES PALE	3
							RESPIRATION / INCREASED RESPIRATORY RATE	3
							GENERAL HEALTH / ROUGH COAT	3
							RESPIRATION / INCREASED RESPIRATORY RATE	3
							GENERAL HEALTH / ROUGH COAT	1
							RESPIRATION / INCREASED RESPIRATORY RATE	3
							RESPIRATION / INCREASED RESPIRATORY RATE	3
							RESPIRATION / INCREASED RESPIRATORY RATE	1
							NORMAL / NO SIGNIFICANT FINDINGS	+
							GENERAL HEALTH / ROUGH COAT	1
							SACRIFICE / EUTHANIZED	+
							GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
							OCULAR / EYES PALE	3
							RESPIRATION / INCREASED RESPIRATORY RATE	1
							GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
							RESPIRATION / INCREASED RESPIRATORY RATE	3
							GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
							RESPIRATION / INCREASED RESPIRATORY RATE	3
							GENERAL HEALTH / ROUGH COAT	3
							RESPIRATION / INCREASED RESPIRATORY RATE	1
							RESPIRATION / INCREASED RESPIRATORY RATE	1
							NORMAL / NO SIGNIFICANT FINDINGS	+
							NORMAL / NO SIGNIFICANT FINDINGS	+
							SACRIFICE / NORMAL / EUTHANIZED	+
							GENERAL HEALTH / HUNCHED POSTURE	1
							BEHAVIORAL / HYPERACTIVE	1
							OCULAR / EYES PALE	1
							RESPIRATION / INCREASED RESPIRATORY RATE	3
23	88C0004	M	3/1	13-JUN-88	13:35	1 / 11:30	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
							OCULAR / EYES PALE	1
							RESPIRATION / INCREASED RESPIRATORY RATE	3
							GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
							RESPIRATION / INCREASED RESPIRATORY RATE	3
							GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
							RESPIRATION / INCREASED RESPIRATORY RATE	3
							GENERAL HEALTH / ROUGH COAT	3
							RESPIRATION / INCREASED RESPIRATORY RATE	1
							GENERAL HEALTH / ROUGH COAT	3
							RESPIRATION / INCREASED RESPIRATORY RATE	3
							GENERAL HEALTH / ROUGH COAT	1
							RESPIRATION / INCREASED RESPIRATORY RATE	1
							NORMAL / NO SIGNIFICANT FINDINGS	+
							NORMAL / NO SIGNIFICANT FINDINGS	+
							SACRIFICE / NORMAL / EUTHANIZED	+
							GENERAL HEALTH / HUNCHED POSTURE	1
							BEHAVIORAL / HYPERACTIVE	1
							OCULAR / EYES PALE	1
							RESPIRATION / INCREASED RESPIRATORY RATE	3
24	88C0021	M	3/1	13-JUN-88	13:37	1 / 11:34	3 GENERAL HEALTH / HUNCHED POSTURE	3

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STUDY NUMBER: 88001

PRINTED: 21-SEP-88

CAGE ANIMAL		GROUP/	DATE AND TIME	STUDY DAY/TIME OPER.		STUDY START DATE: 13-JUN-88		ACUTE/IV	
#	NUMBER SEX	SUBGROUP	DATA WERE ENTERED	DATA WERE TAKEN	#	CLINICAL OBSERVATIONS		*SEV.	GRADE
24	88C0021	M	3/1	13-JUN-88	14:09	1 / 12:34	11 GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / HYPERACTIVE		1
				13-JUN-88	14:57	1 / 14:34	11 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE		1
				14-JUN-88	09:44	2 / 08:06	3 RESPIRATION / INCREASED RESPIRATORY RATE NORMAL / NO SIGNIFICANT FINDINGS		3
				14-JUN-88	14:39	2 / 13:00	9 NORMAL / NO SIGNIFICANT FINDINGS		+
				15-JUN-88	11:01	3 / 10:00	9 NORMAL / NO SIGNIFICANT FINDINGS		+
				16-JUN-88	13:12	4 / 07:30	3 SACRIFICE / NORMAL / EUTHANIZED		+
25	88C0005	M	3/1	13-JUN-88	13:38	1 / 11:34	3 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE		1
				13-JUN-88	14:10	1 / 12:34	11 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE		3
				13-JUN-88	14:59	1 / 14:35	11 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE		3
				14-JUN-88	09:44	2 / 08:07	3 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE		1
				14-JUN-88	14:39	2 / 14:02	9 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE		1
				15-JUN-88	11:02	3 / 10:00	9 RESPIRATION / INCREASED RESPIRATORY RATE RESPIRATION / INCREASED RESPIRATORY RATE		1
				16-JUN-88	13:12	4 / 07:30	3 SACRIFICE / NORMAL / EUTHANIZED		1
26	88C0002	M	3/2	13-JUN-88	13:39	1 / 11:43	3 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE		3
				13-JUN-88	14:10	1 / 12:42	11 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE		5
							BEHAVIORAL / INACTIVE		3
							RESPIRATION / INCREASED RESPIRATORY DEPTH		3
							RESPIRATION / INCREASED RESPIRATORY RATE		3
							RESPIRATION / INCREASED RESPIRATORY DEPTH		3

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

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ACUTE/IV

CAGE #	ANIMAL GROUP/ SEX	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
27	88C0018 M	3/2	14-JUN-88	09:46	2 / 08:07	3 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE 14-JUN-88 14:39 2 / 14:05 9 NORMAL / NO SIGNIFICANT FINDINGS 1 15-JUN-88 11:03 3 / 10:00 9 NORMAL / NO SIGNIFICANT FINDINGS + 16-JUN-88 13:16 4 / 11:11 9 NORMAL / NO SIGNIFICANT FINDINGS + 17-JUN-88 11:04 5 / 09:18 9 NORMAL / NO SIGNIFICANT FINDINGS + 18-JUN-88 13:09 6 / 12:00 9 NORMAL / NO SIGNIFICANT FINDINGS + 19-JUN-88 13:57 7 / 12:00 9 NORMAL / NO SIGNIFICANT FINDINGS + 20-JUN-88 13:13 8 / 12:30 10 NORMAL / NO SIGNIFICANT FINDINGS + 21-JUN-88 11:07 9 / 10:45 9 NORMAL / NO SIGNIFICANT FINDINGS + 22-JUN-88 13:27 10 / 13:00 9 NORMAL / NO SIGNIFICANT FINDINGS + 23-JUN-88 11:29 11 / 07:30 9 NORMAL / NO SIGNIFICANT FINDINGS + 24-JUN-88 09:41 12 / 09:15 9 NORMAL / NO SIGNIFICANT FINDINGS + 25-JUN-88 08:30 13 / 08:03 11 NORMAL / NO SIGNIFICANT FINDINGS - 26-JUN-88 10:25 14 / 09:59 11 NORMAL / NO SIGNIFICANT FINDINGS + 27-JUN-88 ... 15 / 07:30 SACRIFICE / NORMAL / EUTHANIZED + 28 88C0030 M 3/2 13-JUN-88 13:40 1 / 11:46 OCULAR / EYES PALE + RESPIRATION / INCREASED RESPIRATORY RATE 13-JUN-88 14:13 1 / 12:48 11 GENERAL HEALTH / HUNCHED POSTURE + RESPIRATION / INCREASED RESPIRATORY RATE 13-JUN-88 15:00 1 / 14:48 11 GENERAL HEALTH / HUNCHED POSTURE + BEHAVIORAL / INACTIVE RESPIRATION / INCREASED RESPIRATORY RATE 14-JUN-88 09:47 2 / 08:08 3 GENERAL HEALTH / HUNCHED POSTURE + RESPIRATION / INCREASED RESPIRATORY RATE 14-JUN-88 14:40 2 / 14:06 9 NORMAL / NO SIGNIFICANT FINDINGS + 15-JUN-88 11:03 3 / 10:00 9 NORMAL / NO SIGNIFICANT FINDINGS + 16-JUN-88 13:16 4 / 11:12 9 NORMAL / NO SIGNIFICANT FINDINGS + 17-JUN-88 11:04 5 / 09:21 9 GENERAL HEALTH / ROUGH COAT 1 18-JUN-88 13:09 6 / 12:00 9 NORMAL / NO SIGNIFICANT FINDINGS + 19-JUN-88 13:58 7 / 12:00 9 NORMAL / NO SIGNIFICANT FINDINGS +

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STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88 ACUTE/IV

CAGE ANIMAL	GROUP/	DATE AND TIME	STUDY DAY/TIME OPER.	#	NUMBER SEX SUBGROUP DATA WERE ENTERED	DATA WERE TAKEN	#	CLINICAL OBSERVATIONS	*SEV. GRADE
28	88C0030	M	3/2	20-JUN-88	13:13	8 / 12:30	10	NORMAL / NO SIGNIFICANT FINDINGS	+
				21-JUN-88	11:07	9 / 10:45	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				22-JUN-88	13:27	10 / 13:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				23-JUN-88	11:29	11 / 07:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				24-JUN-88	09:41	12 / 09:15	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				25-JUN-88	08:30	13 / 08:04	11	NORMAL / NO SIGNIFICANT FINDINGS	+
				26-JUN-88	10:25	14 / 10:00	11	NORMAL / NO SIGNIFICANT FINDINGS	+
				27-JUN-88	...	15 / 07:30		SACRIFICE / NORMAL / EUTHANIZED	+
29	88C0019	M	3/2	13-JUN-88	13:41	1 / 11:49	3	GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / ATAXIA	1
				13-JUN-88	14:13	1 / 12:51	11	RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE	1
				13-JUN-88	15:01	1 / 14:49	11	RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE	3
				14-JUN-88	09:47	2 / 08:09	3	RESPIRATION / INCREASED RESPIRATORY RATE RESPIRATION / INCREASED RESPIRATORY RATE	1
				14-JUN-88	14:40	2 / 14:09	9	RESPIRATION / INCREASED RESPIRATORY RATE RESPIRATION / INCREASED RESPIRATORY RATE	3
				15-JUN-88	11:03	3 / 10:00	9	NORMAL / NO SIGNIFICANT FINDINGS GENERAL HEALTH / HUNCHED POSTURE	1
				16-JUN-88	13:16	4 / 11:13	9	GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE	1
				17-JUN-88	11:04	5 / 09:23	9	RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE	1
				18-JUN-88	13:09	6 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS NORMAL / NO SIGNIFICANT FINDINGS	1
				19-JUN-88	13:58	7 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS NORMAL / NO SIGNIFICANT FINDINGS	+
				20-JUN-88	13:14	8 / 12:30	10	NORMAL / NO SIGNIFICANT FINDINGS NORMAL / NO SIGNIFICANT FINDINGS	+
				21-JUN-88	11:07	9 / 10:45	9	NORMAL / NO SIGNIFICANT FINDINGS NORMAL / NO SIGNIFICANT FINDINGS	+
				22-JUN-88	13:27	10 / 13:00	9	NORMAL / NO SIGNIFICANT FINDINGS NORMAL / NO SIGNIFICANT FINDINGS	+
				23-JUN-88	11:29	11 / 07:30	9	NORMAL / NO SIGNIFICANT FINDINGS NORMAL / NO SIGNIFICANT FINDINGS	+
				24-JUN-88	09:41	12 / 09:15	9	NORMAL / NO SIGNIFICANT FINDINGS NORMAL / NO SIGNIFICANT FINDINGS	+
				25-JUN-88	08:31	13 / 08:04	11	NORMAL / NO SIGNIFICANT FINDINGS NORMAL / NO SIGNIFICANT FINDINGS	+
				26-JUN-88	10:25	14 / 10:00	11	NORMAL / NO SIGNIFICANT FINDINGS SACRIFICE / NORMAL / EUTHANIZED	+
				27-JUN-88	...	15 / 07:30			+

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30	88C0026 M 3/2	13-JUN-88	13:51	1 / 11:52	11 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	5
					BEHAVIORAL / INACTIVE	5
					RESPIRATION / INCREASED RESPIRATORY DEPTH	3
		13-JUN-88	14:14	1 / 12:54	11 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
					BEHAVIORAL / INACTIVE	5
					RESPIRATION / INCREASED RESPIRATORY DEPTH	3
		13-JUN-88	15:01	1 / 14:52	11 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
					BEHAVIORAL / INACTIVE	5
					RESPIRATION / INCREASED RESPIRATORY DEPTH	3
		14-JUN-88	09:48	2 / 08:11	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
					RESPIRATION / INCREASED RESPIRATORY DEPTH	1
		14-JUN-88	14:40	2 / 14:10	9 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
					RESPIRATION / INCREASED RESPIRATORY DEPTH	1
		15-JUN-88	11:04	3 / 10:00	9 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
		16-JUN-88	13:17	4 / 11:13	9 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
		17-JUN-88	11:04	5 / 09:24	9 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
		18-JUN-88	13:09	6 / 12:00	9 GENERAL HEALTH / ROUGH COAT	+
		19-JUN-88	14:01	7 / 12:00	9 GENERAL HEALTH / ROUGH COAT	1
		20-JUN-88	13:14	8 / 12:30	10 MISCELLANEOUS / STAIN NOSE	1
		21-JUN-88	11:07	9 / 10:45	9 GENERAL HEALTH / ROUGH COAT	1
		22-JUN-88	13:27	10 / 13:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
		23-JUN-88	11:29	11 / 07:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
		24-JUN-88	09:41	12 / 09:16	9 NORMAL / NO SIGNIFICANT FINDINGS	+

* KEY TO SEVERITY GRADE: + = NOT GRADED; 1 = VERY SLIGHT; 2 = SLIGHT; 3 = MODERATE; 4 = SEVERE; 5 = VERY SEVERE

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88 ACUTE/IV

CAGE #	ANIMAL	GROUP/SEX	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
30	88C0026	M 3/2	25-JUN-88	08:31	13 / 08:05	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			26-JUN-88	10:25	14 / 10:00	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			27-JUN-88	...	15 / 07:30	SACRIFICE / NORMAL / EUTHANIZED	+
31	88C0017	M 4/1	13-JUN-88	13:53	1 / 11:58	11 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
						BEHAVIORAL / TREMORS	3
						RESPIRATION / INCREASED RESPIRATORY RATE	1
			13-JUN-88	14:19	1 / 12:58	11 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
						BEHAVIORAL / INACTIVE	3
						RESPIRATION / INCREASED RESPIRATORY RATE	3
			13-JUN-88	15:33	1 / 14:57	11 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
						RESPIRATION / INCREASED RESPIRATORY RATE	3
			14-JUN-88	09:48	2 / 08:29	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
			14-JUN-88	14:41	2 / 14:12	9 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
			15-JUN-88	11:04	3 / 10:00	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			16-JUN-88	13:17	4 / 07:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
						SACRIFICE / NORMAL / EUTHANIZED	+
32	88C0013	M 4/1	13-JUN-88	13:53	1 / 12:00	11 BEHAVIORAL / HYPERACTIVE	3
						RESPIRATION / INCREASED RESPIRATORY RATE	5
			13-JUN-88	14:19	1 / 13:00	11 RESPIRATION / INCREASED RESPIRATORY RATE	3
			13-JUN-88	15:34	1 / 15:59	11 RESPIRATION / INCREASED RESPIRATORY RATE	3
			14-JUN-88	09:49	2 / 08:30	3 GENERAL HEALTH / ROUGH COAT	1
						RESPIRATION / INCREASED RESPIRATORY RATE	1
			14-JUN-88	14:41	2 / 14:12	9 GENERAL HEALTH / ROUGH COAT	1
			15-JUN-88	11:05	3 / 10:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			16-JUN-88	13:18	4 / 07:30	9 SACRIFICE / NORMAL / EUTHANIZED	+
33	88C0028	M 4/1	13-JUN-88	13:54	1 / 12:00	11 GENERAL HEALTH / HUNCHED POSTURE	1
						BEHAVIORAL / ATAXIA	1
						RESPIRATION / INCREASED RESPIRATORY RATE	3

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88 ACUTE/IV

CAGE #	ANIMAL NUMBER	SEX	GROUP SUBGROUP	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
33	88C0028	M	4/1	13-JUN-88	14:21	1 / 13:00	11 GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / INACTIVE	3
				13-JUN-88	15:34	1 / 14:59	11 RESPIRATION / INCREASED RESPIRATORY RATE	1
				14-JUN-88	09:49	2 / ...	3 GENERAL HEALTH / HUNCHED POSTURE	3
				14-JUN-88	14:41	2 / 14:13	9 RESPIRATION / INCREASED RESPIRATORY RATE	3
				15-JUN-88	11:05	3 / 10:00	9 GENERAL HEALTH / HUNCHED POSTURE	1
				16-JUN-88	13:18	4 / 07:30	9 RESPIRATION / INCREASED RESPIRATORY RATE	1
34	88C0032	M	4/1	13-JUN-88	13:55	1 / 12:06	11 NORMAL / NO SIGNIFICANT FINDINGS	+
				13-JUN-88	14:21	1 / 13:06	11 NORMAL / NO SIGNIFICANT FINDINGS	+
				13-JUN-88	15:34	1 / 15:06	11 RESPIRATION / INCREASED RESPIRATORY RATE	+
				14-JUN-88	09:50	2 / 08:31	3 RESPIRATION / INCREASED RESPIRATORY RATE	+
				14-JUN-88	14:41	2 / 14:14	9 GENERAL HEALTH / HUNCHED POSTURE	3
				15-JUN-88	11:06	3 / 10:00	9 RESPIRATION / INCREASED RESPIRATORY RATE	1
				16-JUN-88	13:19	4 / 07:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
35	88C0034	M	4/1	13-JUN-88	13:56	1 / 12:12	11 SACRIFICE / NORMAL / EUTHANIZED	+
				13-JUN-88	14:21	1 / 13:10	11 GENERAL HEALTH / HUNCHED POSTURE	3
				13-JUN-88	15:34	1 / 15:11	11 RESPIRATION / INCREASED RESPIRATORY RATE	1
				14-JUN-88	09:50	2 / 08:40	3 RESPIRATION / INCREASED RESPIRATORY RATE	1
				14-JUN-88	14:41	2 / 14:15	9 GENERAL HEALTH / HUNCHED POSTURE	3
				15-JUN-88	11:06	3 / 10:00	9 RESPIRATION / INCREASED RESPIRATORY RATE	1
				16-JUN-88	13:19	4 / 07:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
36	88C0015	M	4/2	13-JUN-88	13:56	1 / 12:13	11 SACRIFICE / NORMAL / EUTHANIZED	+
				13-JUN-88	14:22	1 / 13:11	11 GENERAL HEALTH / HUNCHED POSTURE	1
				13-JUN-88	15:35	1 / 15:11	11 RESPIRATION / INCREASED RESPIRATORY RATE	3
				14-JUN-88	09:50	2 / 08:42	3 NORMAL / NO SIGNIFICANT FINDINGS	+

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

ACUTE/IV

CAGE ANIMAL #	GROUP/ NUMBER SEX	DATE AND SUBGROUP DATA	TIME WERE ENTERED	STUDY DAY/TIME DATA WERE TAKEN	OPER. #	CLINICAL OBSERVATIONS	*SEV. GRADE
36	88C0015 M	4/2	14-JUN-88 14:42	2 / 14:15	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			15-JUN-88 11:06	3 / 10:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			16-JUN-88 13:19	4 / 11:15	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			17-JUN-88 11:04	5 / ...	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			18-JUN-88 13:09	6 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			19-JUN-88 14:01	7 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			20-JUN-88 13:15	8 / 12:30	10	NORMAL / NO SIGNIFICANT FINDINGS	+
			21-JUN-88 11:07	9 / 10:45	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			22-JUN-88 13:27	10 / 13:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88 11:29	11 / 07:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			24-JUN-88 09:41	12 / 09:15	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			25-JUN-88 08:31	13 / 08:05	11	NORMAL / NO SIGNIFICANT FINDINGS	+
			26-JUN-88 10:25	14 / 10:00	11	NORMAL / NO SIGNIFICANT FINDINGS	+
			27-JUN-88 ...	15 / 07:30		SACRIFICE / NORMAL / EUTHANIZED	+
37	88C0033 M	4/2	13-JUN-88 13:57	1 / 12:14	11	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
			13-JUN-88 14:22	1 / 13:12	11	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	5
			13-JUN-88 15:35	1 / 15:14	11	GENERAL HEALTH / ROUGH COAT	3
			14-JUN-88 09:51	2 / 08:42	3	GENERAL HEALTH / ROUGH COAT	1
			14-JUN-88 14:42	2 / 14:16	9	GENERAL HEALTH / ROUGH COAT	1
			15-JUN-88 11:06	3 / 10:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			16-JUN-88 13:20	4 / 11:16	9	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
			17-JUN-88 11:04	5 / 09:26	9	GENERAL HEALTH / ROUGH COAT	1
			18-JUN-88 13:09	6 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			19-JUN-88 14:01	7 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			20-JUN-88 13:15	8 / 12:30	10	NORMAL / NO SIGNIFICANT FINDINGS	+
			21-JUN-88 11:07	9 / 10:45	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			22-JUN-88 13:28	10 / 13:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88 11:30	11 / 07:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			24-JUN-88 09:42	12 / 09:17	9	NORMAL / NO SIGNIFICANT FINDINGS	+

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

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STUDY START DATE: 13-JUN-88

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CAGE #	ANIMAL	GROUP/ SUBGROUP	DATE	AND TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE		
37	88C0033	M	4/2	25-JUN-88	08:32	13 / 08:05	11	NORMAL / NO SIGNIFICANT FINDINGS	+
				26-JUN-88	10:25	14 / 10:01	11	NORMAL / NO SIGNIFICANT FINDINGS	+
				27-JUN-88	...	15 / 07:30		SACRIFICE / NORMAL / EUTHANIZED	+
38	88C0007	M	4/2	13-JUN-88	13:59	1 / 12:18	11	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
								OCULAR / EYES PALE	3
								RESPIRATION / INCREASED RESPIRATORY RATE	1
								/ INCREASED RESPIRATORY DEPTH	3
				13-JUN-88	14:23	1 / 13:20	11	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
								RESPIRATION / INCREASED RESPIRATORY RATE	3
								/ INCREASED RESPIRATORY DEPTH	3
				13-JUN-88	15:41	1 / 15:19	3	GENERAL HEALTH / ROUGH COAT	1
								BEHAVIORAL / APPREHENSIVE	1
				14-JUN-88	09:51	2 / 08:43	3	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
								BEHAVIORAL / APPREHENSIVE	3
								RESPIRATION / INCREASED RESPIRATORY RATE	1
								/ INCREASED RESPIRATORY DEPTH	1
				14-JUN-88	14:42	2 / 14:19	9	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				15-JUN-88	11:07	3 / 10:00	9	GENERAL HEALTH / ROUGH COAT	1
				16-JUN-88	13:20	4 / 11:16	9	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				17-JUN-88	11:05	5 / 09:27	9	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				18-JUN-88	13:10	6 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	1
				19-JUN-88	14:02	7 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				20-JUN-88	13:15	8 / 12:30	10	NORMAL / NO SIGNIFICANT FINDINGS	+
				21-JUN-88	11:07	9 / 10:45	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				22-JUN-88	13:28	10 / 13:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				23-JUN-88	11:30	11 / 07:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

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CAGE #	ANIMAL	GROUP/	DATE	AND	TIME	STUDY DAY/TIME OPER.	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
#	NUMBER	SEX	SUBGROUP	DATA	WERE	ENTERED	DATA	WERE TAKEN #	
38	88C0007	M	4/2	24-JUN-88	09:42	12 / 09:18	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				25-JUN-88	08:32	13 / 08:06	11	NORMAL / NO SIGNIFICANT FINDINGS	+
				26-JUN-88	10:25	14 / 10:01	11	NORMAL / NO SIGNIFICANT FINDINGS	+
				27-JUN-88	...	15 / 07:30		SACRIFICE / NORMAL / EUTHANIZED	+
39	88C0006	M	4/2	13-JUN-88	13:59	1 / 12:22	11	GENERAL HEALTH / HUNCHED POSTURE	3
								OCULAR / EYES PALE	1
								RESPIRATION / INCREASED RESPIRATORY RATE	3
				13-JUN-88	14:23	1 / 13:22	11	GENERAL HEALTH / HUNCHED POSTURE	3
								RESPIRATION / INCREASED RESPIRATORY RATE	3
				13-JUN-88	15:41	1 / 15:21	3	NORMAL / NO SIGNIFICANT FINDINGS	+
				14-JUN-88	09:52	2 / 08:43	3	GENERAL HEALTH / HUNCHED POSTURE	1
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				14-JUN-88	14:43	2 / 14:19	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				15-JUN-88	11:07	3 / 10:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				16-JUN-88	13:20	4 / 11:16	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				17-JUN-88	11:05	5 / 09:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				18-JUN-88	13:10	6 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				19-JUN-88	14:02	7 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				20-JUN-88	13:15	8 / 12:30	10	NORMAL / NO SIGNIFICANT FINDINGS	+
				21-JUN-88	11:07	9 / 10:45	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				22-JUN-88	13:28	10 / 13:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				23-JUN-88	11:30	11 / 07:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				24-JUN-88	09:42	12 / 09:18	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				25-JUN-88	08:32	13 / 08:06	11	NORMAL / NO SIGNIFICANT FINDINGS	+
				26-JUN-88	10:26	14 / 10:01	11	NORMAL / NO SIGNIFICANT FINDINGS	+
				27-JUN-88	...	15 / 07:30		SACRIFICE / NORMAL / EUTHANIZED	+
40	88C0025	M	4/2	13-JUN-88	14:00	1 / 11:24	11	GENERAL HEALTH / HUNCHED POSTURE	1
				13-JUN-88	14:23	1 / 13:24	11	GENERAL HEALTH / HUNCHED POSTURE	1
				13-JUN-88	15:41	1 / 15:23	3	NORMAL / NO SIGNIFICANT FINDINGS	+
				14-JUN-88	09:53	2 / 08:44	3	NORMAL / NO SIGNIFICANT FINDINGS	+
				14-JUN-88	14:43	2 / 14:20	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				15-JUN-88	11:07	3 / 10:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				16-JUN-88	13:20	4 / 11:16	9	NORMAL / NO SIGNIFICANT FINDINGS	+

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CAGE #	ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DATE DATA WERE ENTERED	TIME DATA WERE TAKEN	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
40	88C0025	M	4/2	17-JUN-88	11:05	5 / 09:31	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				18-JUN-88	13:10	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				19-JUN-88	14:02	7 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				20-JUN-88	13:15	8 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	+
				21-JUN-88	11:07	9 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				22-JUN-88	13:28	10 / 13:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				23-JUN-88	11:30	11 / 07:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				24-JUN-88	09:43	12 / 09:19	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				25-JUN-88	08:33	13 / 08:07	11 NORMAL / NO SIGNIFICANT FINDINGS	+
				26-JUN-88	10:26	14 / 10:01	11 NORMAL / NO SIGNIFICANT FINDINGS	-
				27-JUN-88	...	15 / 07:30	SACRIFICE / NORMAL / EUTHANIZED	+

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CAGE #	ANIMAL	GROUP/	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
#	NUMBER	SEX	SUBGROUP	DATA WERE ENTERED	DATA WERE TAKEN	#	
41	88C0086	F	1/1	14-JUN-88	11:15	1 / 09:28	3
							GENERAL HEALTH / HUNCHED POSTURE
							RESPIRATION / INCREASED RESPIRATORY RATE
							3
				14-JUN-88	12:13	1 / 10:27	3
							GENERAL HEALTH / HUNCHED POSTURE
							RESPIRATION / INCREASED RESPIRATORY RATE
							3
				14-JUN-88	13:59	1 / 12:28	9
							GENERAL HEALTH / HUNCHED POSTURE
							RESPIRATION / INCREASED RESPIRATORY RATE
							3
				15-JUN-88	13:26	2 / 10:34	9
							GENERAL HEALTH / HUNCHED POSTURE
							/ BRUISED TAIL
							RESPIRATION / INCREASED RESPIRATORY RATE
							1
							3
				16-JUN-88	13:23	3 / 10:30	9
							GENERAL HEALTH / BRUISED TAIL
				17-JUN-88	...	4 / 07:30	9
							SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)
42	88C0091	F	1/1	14-JUN-88	11:16	1 / 08:29	3
							SACRIFICE / FOUND DEAD
43	88C0071	F	1/1	14-JUN-88	11:17	1 / 09:26	3
							RESPIRATION / INCREASED RESPIRATORY RATE
				14-JUN-88	12:13	1 / 10:28	3
							GENERAL HEALTH / HUNCHED POSTURE
							RESPIRATION / INCREASED RESPIRATORY RATE
							1
							1
				14-JUN-88	14:02	1 / 12:29	9
							GENERAL HEALTH / HUNCHED POSTURE
							RESPIRATION / INCREASED RESPIRATORY RATE
							3
				15-JUN-88	13:30	2 / 10:35	9
							NORMAL / NO SIGNIFICANT FINDINGS
				16-JUN-88	13:23	3 / 10:31	9
							NORMAL / NO SIGNIFICANT FINDINGS
				17-JUN-88	...	4 / 07:30	9
							SACRIFICE / NORMAL / EUTHANIZED
44	88C0078	F	1/1	14-JUN-88	11:19	1 / 09:34	3
							GENERAL HEALTH / HUNCHED POSTURE
							/ ROUGH COAT
							RESPIRATION / INCREASED RESPIRATORY RATE
							/ INCREASED RESPIRATORY DEPTH
							3
				14-JUN-88	12:14	1 / 10:33	3
							GENERAL HEALTH / HUNCHED POSTURE
							/ ROUGH COAT
							BEHAVIORAL / INACTIVE
							RESPIRATION / INCREASED RESPIRATORY RATE
							/ INCREASED RESPIRATORY DEPTH
							3

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LETTERMAN ARMY INSTITUTE OF RESEARCH DIV OF RES SUPP, PATH SERV GP PRESIDIO OF SAN FRANCISCO, CA 94129 MOUSE/ICR				APPENDIX D: INDIVIDUAL ANIMAL HISTORIES STUDY NUMBER: 88001 STUDY START DATE: 13-JUN-88				PRINTED: 21-SEP-88	
CAGE #	ANIMAL	GROUP/SEX	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS		ACUTE/IV	*SEV. GRADE
44	88C0078	F	1/1	14-JUN-88	14:03	1 / 12:34	9 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT		5
							BEHAVIORAL / INACTIVE		5
							RESPIRATION / INCREASED RESPIRATORY RATE		3
							/ INCREASED RESPIRATORY DEPTH		5
						2 / 10:37	9 GENERAL HEALTH / HUNCHED POSTURE		5
							/ ROUGH COAT		5
							BEHAVIORAL / INACTIVE		3
							RESPIRATION / INCREASED RESPIRATORY RATE		3
							/ INCREASED RESPIRATORY DEPTH		5
						3 / 10:45	9 GENERAL HEALTH / HUNCHED POSTURE		3
45	88C0081	F	1/1	14-JUN-88	11:20	4 / 07:30	9 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT		3
							BEHAVIORAL / INACTIVE		1
							GENERAL HEALTH / HUNCHED POSTURE		3
							/ ROUGH COAT		3
							SACRIFICE / EUTHANIZED		+
						1 / 09:35	3 GENERAL HEALTH / HUNCHED POSTURE		3
							BEHAVIORAL / DISORIENTED		3
							RESPIRATION / INCREASED RESPIRATORY RATE		3
						1 / 10:34	3 GENERAL HEALTH / HUNCHED POSTURE		3
							/ ROUGH COAT		3
				14-JUN-88	14:03	1 / 12:33	9 GENERAL HEALTH / HUNCHED POSTURE		3
							BEHAVIORAL / DISORIENTED		3
							RESPIRATION / INCREASED RESPIRATORY RATE		3
							GENERAL HEALTH / HUNCHED POSTURE		1
							/ ROUGH COAT		1
							BEHAVIORAL / DISORIENTED		3
							RESPIRATION / INCREASED RESPIRATORY RATE		3
						2 / 10:37	9 GENERAL HEALTH / HUNCHED POSTURE		1
							RESPIRATION / INCREASED RESPIRATORY RATE		1
						3 / 10:45	9 GENERAL HEALTH / HUNCHED POSTURE		1
							/ ROUGH COAT		1

* KEY TO SEVERITY GRADE: + = NOT GRADED; 1 = VERY SLIGHT; 2 = SLIGHT; 3 = MODERATE; 4 = SEVERE; 5 = VERY SEVERE

ACUTE/IV

STUDY START DATE: 13-JUN-88

[illegible]

‡ NUMBER SEX SUBGROUP DATA WERE ENTERED DATA WERE TAKEN ‡ CLINICAL OBSERVATIONS

***SEV. GRADE**

45	88C0081	F	1/1	17-JUN-88	...	4 / 07:30	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
							SACRIFICE / EUTHANIZED	1
46	88C0079	F	1/2	14-JUN-88	11:21	1 / 09:36	3 BEHAVIORAL / HYPERACTIVE	1
				14-JUN-88	12:15	1 / 10:35	3 BEHAVIORAL / HYPERACTIVE	1
				14-JUN-88	14:04	1 / 12:34	9 RESPIRATION / INCREASED RESPIRATORY RATE	1
				15-JUN-88	13:32	2 / 10:38	9 NORMAL / NO SIGNIFICANT FINDINGS	1
				16-JUN-88	13:24	3 / 10:46	9 NORMAL / NO SIGNIFICANT FINDINGS	1
				17-JUN-88	10:53	4 / 07:30	9 NORMAL / NO SIGNIFICANT FINDINGS	1
				18-JUN-88	10:53	5 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	1
				19-JUN-88	10:53	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	1
				20-JUN-88	10:53	7 / 12:30	9 NORMAL / NO SIGNIFICANT FINDINGS	1
				21-JUN-88	11:10	8 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	1
				22-JUN-88	13:29	9 / 09:42	9 NORMAL / NO SIGNIFICANT FINDINGS	1
				23-JUN-88	11:42	10 / 11:31	9 NORMAL / NO SIGNIFICANT FINDINGS	1
				24-JUN-88	09:45	11 / 09:30	9 NORMAL / NO SIGNIFICANT FINDINGS	1
				25-JUN-88	08:39	12 / 08:07	11 NORMAL / NO SIGNIFICANT FINDINGS	1
				26-JUN-88	10:27	13 / 10:02	11 NORMAL / NO SIGNIFICANT FINDINGS	1
				27-JUN-88	13:14	14 / 08:12	9 NORMAL / NO SIGNIFICANT FINDINGS	1
				28-JUN-88	...	15 / 07:30	SACRIFICE / NORMAL / EUTHANIZED	1
47	88C0063	F	1/2	14-JUN-88	11:22	1 / 09:42	3 GENERAL HEALTH / HUNCHED POSTURE / EYES PALE	1
				14-JUN-88	12:15	1 / 10:39	3 RESPIRATION / INCREASED RESPIRATORY RATE	1
				14-JUN-88	14:05	1 / 12:38	9 RESPIRATION / INCREASED RESPIRATORY RATE	1
				15-JUN-88	13:32	2 / 10:40	9 NORMAL / NO SIGNIFICANT FINDINGS	3
				16-JUN-88	13:24	3 / 10:46	9 NORMAL / NO SIGNIFICANT FINDINGS	3
				17-JUN-88	10:53	4 / 13:23	9 NORMAL / NO SIGNIFICANT FINDINGS	3
				18-JUN-88	10:53	5 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	3
				19-JUN-88	10:53	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	3
				20-JUN-88	10:53	7 / 12:30	9 NORMAL / NO SIGNIFICANT FINDINGS	3

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LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

ACUTE/IV

CAGE #	ANIMAL	GROUP/ SUBGROUP	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
47	88C0063	F 1/2	21-JUN-88	11:10	8 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			22-JUN-88	13:29	9 / 09:40	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88	11:42	10 / 11:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			24-JUN-88	09:45	11 / 09:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			25-JUN-88	08:40	12 / 08:07	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			26-JUN-88	10:27	13 / 10:02	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			27-JUN-88	13:14	14 / 08:13	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			28-JUN-88	...	15 / 07:30	SACRIFICE / NORMAL / EUTHANIZED	+
48	88C0087	F 1/2	14-JUN-88	11:31	1 / 09:43	3 RESPIRATION / INCREASED RESPIRATORY RATE	3
			14-JUN-88	12:16	1 / 10:40	3 RESPIRATION / INCREASED RESPIRATORY RATE	1
			14-JUN-88	14:05	1 / 12:39	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			15-JUN-88	13:34	2 / 10:40	9 GENERAL HEALTH / BRUISED TAIL	5
			16-JUN-88	13:24	3 / 10:46	9 GENERAL HEALTH / BRUISED TAIL	5
			17-JUN-88	14:11	4 / 13:23	9 GENERAL HEALTH / BRUISED TAIL	5
			18-JUN-88	13:13	5 / 12:00	9 GENERAL HEALTH / BRUISED TAIL	5
			19-JUN-88	14:06	6 / 12:00	9 GENERAL HEALTH / BRUISED TAIL	5
			20-JUN-88	13:17	7 / 12:30	10 GENERAL HEALTH / BRUISED TAIL	5
			21-JUN-88	11:11	8 / 10:45	9 GENERAL HEALTH / BRUISED TAIL	5
			22-JUN-88	13:30	9 / 09:40	9 GENERAL HEALTH / BRUISED TAIL	3
			23-JUN-88	11:42	10 / 11:30	9 GENERAL HEALTH / TAIL SLOUGH	3
			24-JUN-88	09:45	11 / 09:30	9 GENERAL HEALTH / TAIL SLOUGH	3
			25-JUN-88	08:41	12 / 08:08	11 GENERAL HEALTH / TAIL SLOUGH	3
			26-JUN-88	10:28	13 / 10:02	11 GENERAL HEALTH / TAIL SLOUGH	3
			27-JUN-88	13:14	14 / 08:14	9 GENERAL HEALTH / TAIL SLOUGH	3
			28-JUN-88	09:07	15 / 07:30	9 GENERAL HEALTH / TAIL SLOUGH	3
						SACRIFICE / EUTHANIZED	+
49	88C0050	F 1/2	14-JUN-88	11:31	1 / 09:44	3 GENERAL HEALTH / HUNCHED POSTURE	3
						RESPIRATION / INCREASED RESPIRATORY RATE	3
			14-JUN-88	12:16	1 / 10:42	3 GENERAL HEALTH / HUNCHED POSTURE	3
						RESPIRATION / INCREASED RESPIRATORY RATE	3
			14-JUN-88	14:06	1 / 12:42	9 GENERAL HEALTH / HUNCHED POSTURE	3
						RESPIRATION / INCREASED RESPIRATORY RATE	1

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STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

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CAGE #	ANIMAL #	GROUP/SEX	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
49	88C0050	F 1/2	15-JUN-88	13:34	2 / 10:41	9 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE	1
			16-JUN-88	13:24	3 / 10:47	9 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE	1
			17-JUN-88	14:11	4 / 13:23	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			18-JUN-88	13:13	5 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			19-JUN-88	14:06	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			20-JUN-88	13:18	7 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	+
			21-JUN-88	11:11	8 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			22-JUN-88	13:30	9 / 09:40	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88	11:43	10 / 11:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			24-JUN-88	09:45	11 / 09:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			25-JUN-88	08:41	12 / 08:08	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			26-JUN-88	10:28	13 / 10:03	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			27-JUN-88	13:14	14 / 08:15	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			28-JUN-88	...	15 / 07:30	SACRIFICE / NORMAL / EUTHANIZED	+
50	88C0058	F 1/2	14-JUN-88	11:32	1 / 09:47	3 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE	3
			14-JUN-88	12:16	1 / 10:46	3 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE	3
			14-JUN-88	14:06	1 / 12:47	9 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE	3
			15-JUN-88	13:35	2 / 10:42	9 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE	3
			16-JUN-88	13:24	3 / 10:47	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			17-JUN-88	14:11	4 / 13:23	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			18-JUN-88	13:14	5 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			19-JUN-88	14:06	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			20-JUN-88	13:18	7 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	+
			21-JUN-88	11:11	8 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			22-JUN-88	13:30	9 / 09:42	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88	11:43	10 / 11:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			24-JUN-88	09:46	11 / 09:30	9 REFLEXES / INCREASED STARTLE REFLEX	+
			25-JUN-88	08:42	12 / 08:09	11 NORMAL / NO SIGNIFICANT FINDINGS	1

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88 ACUTE/IV

CAGE #	ANIMAL	GROUP/ SUBGROUP	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
50	88C0058	F 1/2	26-JUN-88	10:28	13 / 10:03	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			27-JUN-88	13:14	14 / 08:11	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			28-JUN-88	09:08	15 / 07:30	9 SACRIFICE / NORMAL / EUTHANIZED	+
51	88C0057	F 2/1	14-JUN-88	11:33	1 / 09:49	3 GENERAL HEALTH / HUNCHED POSTURE	1
						OCULAR / EYES PALE	1
			14-JUN-88	12:16	1 / 10:49	3 GENERAL HEALTH / HUNCHED POSTURE	1
			14-JUN-88	14:08	1 / 12:49	9 GENERAL HEALTH / BRUISED TAIL	5
			15-JUN-88	13:35	2 / 10:26	9 GENERAL HEALTH / BRUISED TAIL	5
			16-JUN-88	13:25	3 / 10:48	9 GENERAL HEALTH / BRUISED TAIL	5
			17-JUN-88	...	4 / 07:30	9 GENERAL HEALTH / BRUISED TAIL	5
						SACRIFICE / EUTHANIZED	4
52	88C0080	F 2/1	14-JUN-88	11:33	1 / 09:51	3 GENERAL HEALTH / HUNCHED POSTURE	1
						BEHAVIORAL / DISORIENTED	1
			14-JUN-88	12:17	1 / 10:50	3 RESPIRATION / INCREASED RESPIRATORY RATE	3
						GENERAL HEALTH / HUNCHED POSTURE	1
			14-JUN-88	14:08	1 / 12:50	9 RESPIRATION / INCREASED RESPIRATORY RATE	1
			15-JUN-88	13:35	2 / 10:27	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			16-JUN-88	13:25	3 / 10:48	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			17-JUN-88	...	4 / 07:30	9 SACRIFICE / NORMAL / EUTHANIZED	+
53	88C0084	F 2/1	14-JUN-88	11:34	1 / 09:54	3 GENERAL HEALTH / HUNCHED POSTURE	1
						RESPIRATION / INCREASED RESPIRATORY RATE	3
			14-JUN-88	12:17	1 / 10:54	3 GENERAL HEALTH / HUNCHED POSTURE	1
						BEHAVIORAL / HYPERACTIVE	1
			14-JUN-88	14:08	1 / 12:53	9 RESPIRATION / INCREASED RESPIRATORY RATE	1
						BEHAVIORAL / HYPERACTIVE	1
			15-JUN-88	13:36	2 / 10:27	9 RESPIRATION / INCREASED RESPIRATORY RATE	1
			16-JUN-88	13:25	3 / 10:48	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			17-JUN-88	...	4 / 07:30	9 SACRIFICE / NORMAL / EUTHANIZED	+
54	88C0096	F 2/1	14-JUN-88	11:35	1 / 09:56	3 GENERAL HEALTH / HUNCHED POSTURE	3
						BEHAVIORAL / HYPERACTIVE	3
						RESPIRATION / INCREASED RESPIRATORY RATE	3

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54	88C0096 F	2/1	14-JUN-88	12:18	1 / 10:56	3
					GENERAL HEALTH / HUNCHED POSTURE	3
					BEHAVIORAL / HYPERACTIVE	2
					RESPIRATION / INCREASED RESPIRATORY RATE	1
			14-JUN-88	14:09	1 / 12:58	3
					GENERAL HEALTH / HUNCHED POSTURE	3
					BEHAVIORAL / HYPERACTIVE	3
					RESPIRATION / INCREASED RESPIRATORY RATE	1
			15-JUN-88	13:37	2 / 10:28	1
					GENERAL HEALTH / HUNCHED POSTURE	1
					RESPIRATION / INCREASED RESPIRATORY RATE	1
			16-JUN-88	13:25	3 / 10:49	1
					GENERAL HEALTH / HUNCHED POSTURE	1
			17-JUN-88	...	4 / 07:30	1
					SACRIFICE / EUTHANIZED	+
55	88C0073 F	2/1	14-JUN-88	11:36	1 / 09:57	1
					GENERAL HEALTH / HUNCHED POSTURE	1
					RESPIRATION / INCREASED RESPIRATORY DEPTH	1
			14-JUN-88	12:18	1 / 10:58	1
					GENERAL HEALTH / HUNCHED POSTURE	1
			14-JUN-88	14:09	1 / 12:59	1
					GENERAL HEALTH / HUNCHED POSTURE	1
			15-JUN-88	13:37	2 / 10:28	+
					NORMAL / NO SIGNIFICANT FINDINGS	+
			16-JUN-88	13:25	3 / 10:49	+
					NORMAL / NO SIGNIFICANT FINDINGS	+
			17-JUN-88	...	4 / 07:30	+
					SACRIFICE / NORMAL / EUTHANIZED	+
56	88C0088 F	2/2	14-JUN-88	11:37	1 / 10:00	3
					BEHAVIORAL / DISORIENTED	3
					RESPIRATION / INCREASED RESPIRATORY RATE	1
			14-JUN-88	12:18	1 / 11:00	1
					GENERAL HEALTH / HUNCHED POSTURE	3
					BEHAVIORAL / DISORIENTED	3
					RESPIRATION / INCREASED RESPIRATORY RATE	3
			14-JUN-88	14:10	1 / 13:01	3
					RESPIRATION / INCREASED RESPIRATORY RATE	3
			15-JUN-88	13:37	2 / 10:30	1
					RESPIRATION / INCREASED RESPIRATORY RATE	1
			16-JUN-88	13:25	3 / 10:50	1
					RESPIRATION / INCREASED RESPIRATORY RATE	1
			17-JUN-88	14:11	4 / 13:23	1
					RESPIRATION / INCREASED RESPIRATORY RATE	1
			18-JUN-88	13:14	5 / 12:00	+
					NORMAL / NO SIGNIFICANT FINDINGS	+
			19-JUN-88	14:07	6 / 12:00	+
					NORMAL / NO SIGNIFICANT FINDINGS	+
			20-JUN-88	13:20	7 / 12:30	+
					NORMAL / NO SIGNIFICANT FINDINGS	+
			21-JUN-88	11:13	8 / 10:45	+
					NORMAL / NO SIGNIFICANT FINDINGS	+
			22-JUN-88	13:30	9 / 09:42	+
					NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88	11:43	10 / 11:30	+
					NORMAL / NO SIGNIFICANT FINDINGS	+

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NUMBER SEX SUBGROUP DATA WERE ENTERED DATA WERE TAKEN # CLINICAL OBSERVATIONS *SEV. GRADE

56	88C0088	F	2/2	24-JUN-88	09:47	11 / 09:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				25-JUN-88	08:42	12 / 08:09	11	NORMAL / NO SIGNIFICANT FINDINGS	+
				26-JUN-88	10:28	13 / 10:03	11	NORMAL / NO SIGNIFICANT FINDINGS	+
				27-JUN-88	13:15	14 / 08:18	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				28-JUN-88	09:09	15 / 07:30	9	SACRIFICE / NORMAL / EUTHANIZED	+
57	88C0062	F	2/2	14-JUN-88	11:37	1 / 10:01	3	BEHAVIORAL / HYPERACTIVE	3
				14-JUN-88	12:18	1 / 11:01	3	RESPIRATION / INCREASED RESPIRATORY RATE	3
								BEHAVIORAL / HYPERACTIVE	3
				14-JUN-88	14:11	1 / 13:02	9	RESPIRATION / INCREASED RESPIRATORY RATE	3
								GENERAL HEALTH / HUNCHED POSTURE	3
								BEHAVIORAL / CIRCLING	3
								/ HYPERACTIVE	3
				15-JUN-88	13:38	2 / 10:30	9	RESPIRATION / INCREASED RESPIRATORY RATE	3
				15-JUN-88	13:26	3 / 10:50	9	BEHAVIORAL / HYPERACTIVE	1
				17-JUN-88	14:12	4 / 13:23	9	BEHAVIORAL / HYPERACTIVE	3
								BEHAVIORAL / CIRCLING	1
								/ HYPERACTIVE	1
				18-JUN-88	13:14	5 / 12:00	9	BEHAVIORAL / HYPERACTIVE	1
				19-JUN-88	14:07	6 / 12:00	9	BEHAVIORAL / HYPERACTIVE	1
				20-JUN-88	13:21	7 / 12:30	10	NORMAL / NO SIGNIFICANT FINDINGS	1
				21-JUN-88	11:13	8 / 10:45	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				22-JUN-88	13:31	9 / 09:42	9	BEHAVIORAL / HYPERACTIVE	+
				23-JUN-88	11:43	10 / 11:30	9	BEHAVIORAL / HYPERACTIVE	1
				24-JUN-88	09:47	11 / 09:30	9	BEHAVIORAL / HYPERACTIVE	1
				25-JUN-88	08:44	12 / 08:10	11	BEHAVIORAL / HYPERACTIVE	1
				26-JUN-88	10:28	13 / 10:04	11	BEHAVIORAL / HYPERACTIVE	1
				27-JUN-88	13:15	14 / 08:18	9	NORMAL / NO SIGNIFICANT FINDINGS	1
				28-JUN-88	09:09	15 / 07:30	9	SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)	+
58	88C0064	F	2/2	14-JUN-88	11:38	1 / 10:04	3	GENERAL HEALTH / HUNCHED POSTURE	+
								BEHAVIORAL / HYPERACTIVE	1
								RESPIRATION / INCREASED RESPIRATORY RATE	1
				14-JUN-88	12:19	1 / 11:06	3	GENERAL HEALTH / HUNCHED POSTURE	1
								BEHAVIORAL / HYPERACTIVE	3

* KEY TO SEVERITY GRADE: + = NOT GRADED; 1 = VERY SLIGHT; 2 = SLIGHT; 3 = MODERATE; 4 = SEVERE; 5 = VERY SEVERE

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

ACUTE/IV

STUDY START DATE: 13-JUN-88

CAGE #	ANIMAL #	GROUP	DATE	TIME	STUDY DAY	TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
58	88C0064	F	2/2	14-JUN-88	12:19	1 / 11:06	3 RESPIRATION / INCREASED RESPIRATORY RATE	3
				14-JUN-88	14:11	1 / 13:04	9 GENERAL HEALTH / HUNCHED POSTURE	3
				15-JUN-88	13:38	2 / 10:30	9 RESPIRATION / INCREASED RESPIRATORY RATE	3
				16-JUN-88	13:26	3 / 10:51	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				17-JUN-88	14:13	4 / 13:28	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				18-JUN-88	13:14	5 / 12:00	9 GENERAL HEALTH / BRUISED TAIL	1
				19-JUN-88	14:07	6 / 12:00	9 GENERAL HEALTH / BRUISED TAIL	1
				20-JUN-88	13:21	7 / 12:30	10 GENERAL HEALTH / BRUISED TAIL	1
				21-JUN-88	11:13	8 / 10:45	9 GENERAL HEALTH / BRUISED TAIL	1
				22-JUN-88	13:31	9 / 09:43	9 GENERAL HEALTH / BRUISED TAIL	1
				23-JUN-88	11:43	10 / 11:30	9 GENERAL HEALTH / BRUISED TAIL	1
				24-JUN-88	09:47	11 / 09:30	9 GENERAL HEALTH / TAIL SLOUGH	1
				25-JUN-88	08:44	12 / 08:10	9 GENERAL HEALTH / TAIL SLOUGH	1
				26-JUN-88	10:28	13 / 10:04	11 GENERAL HEALTH / TAIL SLOUGH	1
				27-JUN-88	13:15	14 / 08:11	9 GENERAL HEALTH / TAIL SLOUGH	1
				28-JUN-88	09:10	15 / 07:30	9 SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)	3
59	88C0075	F	2/2	14-JUN-88	11:46	1 / 10:08	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
				14-JUN-88	12:19	1 / 11:07	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
				14-JUN-88	14:12	1 / 12:07	9 RESPIRATION / INCREASED RESPIRATORY DEPTH	1
				15-JUN-88	13:39	2 / 10:33	9 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
				16-JUN-88	13:26	3 / 10:51	9 RESPIRATION / INCREASED RESPIRATORY DEPTH	1
				17-JUN-88	14:13	4 / 13:29	9 GENERAL HEALTH / HUNCHED POSTURE	1
				18-JUN-88	13:14	5 / 12:00	9 GENERAL HEALTH / TAIL SLOUGH	5
				19-JUN-88	14:07	6 / 12:00	9 GENERAL HEALTH / TAIL SLOUGH	5
				20-JUN-88	13:21	7 / 12:30	10 GENERAL HEALTH / TAIL SLOUGH	5
				21-JUN-88	11:13	8 / 10:45	9 GENERAL HEALTH / TAIL SLOUGH	5

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

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CAGE #	ANIMAL	GROUP/ SUBGROUP	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
59	88C0075	F 2/2	22-JUN-88	13:31	9 / 09:43	9 GENERAL HEALTH / TAIL SLOUGH	5
			23-JUN-88	11:44	10 / 11:30	9 GENERAL HEALTH / TAIL SLOUGH	5
			24-JUN-88	09:47	11 / 09:30	9 GENERAL HEALTH / TAIL SLOUGH	5
			25-JUN-88	08:44	12 / 08:11	11 GENERAL HEALTH / TAIL SLOUGH	5
			26-JUN-88	10:28	13 / 10:05	11 GENERAL HEALTH / TAIL SLOUGH	5
			27-JUN-88	13:15	14 / 08:20	9 GENERAL HEALTH / TAIL SLOUGH	5
			28-JUN-88	09:10	15 / 07:30	9 SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)	+
60	88C0059	F 2/2	14-JUN-88	11:47	1 / 10:08	3 GENERAL HEALTH / HUNCHED POSTURE	3
			14-JUN-88	12:20	1 / 11:07	3 RESPIRATION / INCREASED RESPIRATORY RATE	3
			14-JUN-88	14:13	1 / 12:07	9 GENERAL HEALTH / HUNCHED POSTURE	3
			15-JUN-88	13:39	2 / 10:33	9 RESPIRATION / INCREASED RESPIRATORY RATE	3
			16-JUN-88	13:26	3 / 10:52	9 GENERAL HEALTH / HUNCHED POSTURE	1
			17-JUN-88	14:13	4 / 13:30	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			18-JUN-88	13:14	5 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			19-JUN-88	14:08	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			20-JUN-88	13:22	7 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	+
			21-JUN-88	11:14	8 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			22-JUN-88	13:21	9 / 09:44	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88	11:44	10 / 11:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			24-JUN-88	09:47	11 / 09:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			25-JUN-88	08:44	12 / 08:11	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			26-JUN-88	10:29	13 / 10:05	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			27-JUN-88	13:15	14 / 08:22	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			28-JUN-88	09:10	15 / 07:30	9 SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)	+
61	88C0055	F 3/1	14-JUN-88	11:48	1 / 10:01	3 GENERAL HEALTH / HUNCHED POSTURE	1
						BEHAVIORAL / DISORIENTED	1
						RESPIRATION / INCREASED RESPIRATORY RATE	3

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CAGE #	ANIMAL	GROUP/SEX	DATE DATA ENTERED	TIME DATA ENTERED	STUDY DAY/TIME OPER.	# CLINICAL OBSERVATIONS	*SEV. GRADE
61	88C0055	F 3/1	14-JUN-88	12:20	1 / 11:09	3 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE 14-JUN-88 14:13 1 / 13:09 9 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE 15-JUN-88 13:39 2 / 10:19 9 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE 16-JUN-88 13:26 3 / 10:52 9 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE 17-JUN-88 ... 4 / 07:30 9 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE SACRIFICE / EUTHANIZED	1 1 3 1 1 1 1 1 1 1 +
62	88C0083	F 3/1	14-JUN-88	11:49	1 / 10:13	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT RESPIRATION / INCREASED RESPIRATORY RATE 14-JUN-88 12:21 1 / 11:12 3 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE 14-JUN-88 14:14 1 / 12:12 9 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE 15-JUN-88 13:40 2 / 10:20 9 NORMAL / NO SIGNIFICANT FINDINGS 16-JUN-88 13:26 3 / 10:53 9 NORMAL / NO SIGNIFICANT FINDINGS 17-JUN-88 ... 4 / 07:30 3 SACRIFICE / NORMAL / EUTHANIZED 14-JUN-88 11:56 1 / 10:18 3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT BEHAVIORAL / ATAXIA OCULAR / EYES PALE RESPIRATION / INCREASED RESPIRATORY RATE 14-JUN-88 12:22 1 / 11:18 3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT RESPIRATION / INCREASED RESPIRATORY RATE 14-JUN-88 14:15 1 / 13:18 9 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT 15-JUN-88 13:40 2 / 10:21 9 NORMAL / NO SIGNIFICANT FINDINGS 16-JUN-88 13:26 3 / 10:53 9 NORMAL / NO SIGNIFICANT FINDINGS	1 1 3 3 3 1 1 1 + + + 5 3 1 1 1 1 1 1 1 1 1 1 +

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

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STUDY START DATE: 13-JUN-88

ACUTE/IV

CASE #	ANIMAL NUMBER	SEX	GROUP/ SUBGROUP	DATE DATA WERE ENTERED	TIME DATA WERE TAKEN	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
63	88C0054	F	3/1	17-JUN-88	...	4 / 07:30	SACRIFICE / NORMAL / EUTHANIZED	+
64	88C0049	F	3/1	14-JUN-88	11:59	1 / 10:16	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	5
							BEHAVIORAL / INACTIVE	3
							RESPIRATION / INCREASED RESPIRATORY DEPTH	1
				14-JUN-88	12:23	1 / 11:21	3 GENERAL HEALTH / HUNCHED POSTURE	3
				14-JUN-88	14:15	1 / 12:16	9 RESPIRATION / INCREASED RESPIRATORY RATE	3
				15-JUN-88	13:41	2 / 10:21	9 GENERAL HEALTH / HUNCHED POSTURE	3
				16-JUN-88	13:27	3 / 10:54	9 RESPIRATION / INCREASED RESPIRATORY RATE	3
				17-JUN-88	4 / 07:30		9 GENERAL HEALTH / HUNCHED POSTURE	3
65	88C0093	F	3/1	14-JUN-88	12:00	1 / 10:16	3 SACRIFICE / EUTHANIZED	+
							OCULAR / EYES PALE	1
							RESPIRATION / INCREASED RESPIRATORY RATE	3
				14-JUN-88	12:24	1 / 11:22	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
							RESPIRATION / INCREASED RESPIRATORY RATE	1
				14-JUN-88	14:15	1 / 13:15	9 RESPIRATION / INCREASED RESPIRATORY RATE	3
				15-JUN-88	13:41	2 / 10:22	9 NORMAL / NO SIGNIFICANT FINDINGS	1
				16-JUN-88	13:27	3 / 10:54	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				17-JUN-88	...	4 / 07:30	SACRIFICE / NORMAL / EUTHANIZED	+
66	88C0094	F	3/2	14-JUN-88	12:01	1 / 10:24	3 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	5
							OCULAR / EYES PALE	3
							RESPIRATION / INCREASED RESPIRATORY DEPTH	1
				14-JUN-88	12:24	1 / 11:24	3 GENERAL HEALTH / HUNCHED POSTURE	3
							5 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	5
							OCULAR / EYES PALE	3
							RESPIRATION / INCREASED RESPIRATORY DEPTH	1
							3	3

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

ACUTE/IV

CAGE ANIMAL GROUP/ DATE AND TIME STUDY DAY/TIME OPER.

NUMBER SEX SUBGROUP DATA WERE ENTERED DATA WERE TAKEN # CLINICAL OBSERVATIONS

*SEV.
GRADE

66	88C0094	F	3/2	14-JUN-88	14:16	1 / 13:24	9	GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	3
								BEHAVIORAL / ATAXIA	3
								RESPIRATION / INCREASED RESPIRATORY DEPTH	1
15-JUN-88				13:42	2 / 10:23	9	GENERAL HEALTH / HUNCHED POSTURE	RESPIRATION / INCREASED RESPIRATORY DEPTH	3
16-JUN-88				13:27	3 / 10:55	9	GENERAL HEALTH / HUNCHED POSTURE	RESPIRATION / INCREASED RESPIRATORY DEPTH	1
17-JUN-88				14:14	4 / 07:30	9	GENERAL HEALTH / HUNCHED POSTURE	RESPIRATION / INCREASED RESPIRATORY DEPTH	1
18-JUN-88				13:15	5 / 12:00	9	BEHAVIORAL / HYPERACTIVE	RESPIRATION / INCREASED RESPIRATORY DEPTH	1
19-JUN-88				14:08	6 / 12:00	9	BEHAVIORAL / HYPERACTIVE	RESPIRATION / INCREASED RESPIRATORY DEPTH	1
20-JUN-88				13:22	7 / 12:30	10	BEHAVIORAL / HYPERACTIVE	RESPIRATION / INCREASED RESPIRATORY DEPTH	1
21-JUN-88				11:14	8 / 10:45	9	NORMAL / NO SIGNIFICANT FINDINGS	RESPIRATION / INCREASED RESPIRATORY DEPTH	+
22-JUN-88				13:31	9 / 13:04	9	NORMAL / NO SIGNIFICANT FINDINGS	RESPIRATION / INCREASED RESPIRATORY DEPTH	+
23-JUN-88				11:44	10 / 11:30	9	NORMAL / NO SIGNIFICANT FINDINGS	RESPIRATION / INCREASED RESPIRATORY DEPTH	+
24-JUN-88				09:47	11 / 09:30	9	BEHAVIORAL / HYPERACTIVE	RESPIRATION / INCREASED RESPIRATORY DEPTH	+
25-JUN-88				08:45	12 / 08:12	11	NORMAL / NO SIGNIFICANT FINDINGS	RESPIRATION / INCREASED RESPIRATORY DEPTH	3
26-JUN-88				10:29	13 / 10:05	11	NORMAL / NO SIGNIFICANT FINDINGS	RESPIRATION / INCREASED RESPIRATORY DEPTH	+
27-JUN-88				13:16	14 / 08:23	9	NORMAL / NO SIGNIFICANT FINDINGS	RESPIRATION / INCREASED RESPIRATORY DEPTH	+
28-JUN-88				09:11	15 / 07:30	9	SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)	RESPIRATION / INCREASED RESPIRATORY DEPTH	+
14-JUN-88	67	88C0085	F	3/2	12:01	1 / 10:25	3	GENERAL HEALTH / HUNCHED POSTURE	3
14-JUN-88				12:24	1 / 11:25	3	GENERAL HEALTH / HUNCHED POSTURE	RESPIRATION / INCREASED RESPIRATORY RATE	3
14-JUN-88				14:16	1 / 13:25	9	RESPIRATION / INCREASED RESPIRATORY RATE	RESPIRATION / INCREASED RESPIRATORY RATE	1
15-JUN-88				13:42	2 / 10:23	9	NORMAL / NO SIGNIFICANT FINDINGS	RESPIRATION / INCREASED RESPIRATORY RATE	+
16-JUN-88				13:27	3 / 10:55	9	NORMAL / NO SIGNIFICANT FINDINGS	RESPIRATION / INCREASED RESPIRATORY RATE	+
17-JUN-88				14:14	4 / 13:31	9	NORMAL / NO SIGNIFICANT FINDINGS	RESPIRATION / INCREASED RESPIRATORY RATE	+
18-JUN-88				13:15	5 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	RESPIRATION / INCREASED RESPIRATORY RATE	+
19-JUN-88				14:08	6 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	RESPIRATION / INCREASED RESPIRATORY RATE	+
20-JUN-88				13:22	7 / 12:30	10	NORMAL / NO SIGNIFICANT FINDINGS	RESPIRATION / INCREASED RESPIRATORY RATE	+
21-JUN-88				11:14	8 / 10:45	9	NORMAL / NO SIGNIFICANT FINDINGS	RESPIRATION / INCREASED RESPIRATORY RATE	+

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES

STUDY NUMBER: 88001

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STUDY START DATE: 13-JUN-88

ACUTE/IV

CAGE #	ANIMAL	GROUP/SEX	DATE	TIME	STUDY DAY/TIME OPER.	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
67	88C0085	F 3/2	22-JUN-88	13:31	9 / 13:01	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88	11:44	10 / 11:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			24-JUN-88	09:47	11 / 09:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			25-JUN-88	08:45	12 / 08:12	11	NORMAL / NO SIGNIFICANT FINDINGS	+
			26-JUN-88	10:29	13 / 10:06	11	NORMAL / NO SIGNIFICANT FINDINGS	+
			27-JUN-88	13:16	14 / 08:23	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			28-JUN-88	09:11	15 / 07:30	9	SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)	+
68	88C0070	F 3/2	14-JUN-88	12:02	1 / 10:26	3	GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / DISORIENTED	+
			14-JUN-88	12:25	1 / 11:25	3	RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / DISORIENTED	5
			14-JUN-88	14:17	1 / 13:26	9	RESPIRATION / INCREASED RESPIRATORY RATE	+
			15-JUN-88	13:44	2 / 10:24	9	GENERAL HEALTH / HUNCHED POSTURE	+
			16-JUN-88	13:27	3 / 10:56	9	RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE	+
			17-JUN-88	14:14	4 / 13:31	9	RESPIRATION / INCREASED RESPIRATORY RATE	+
			18-JUN-88	13:15	5 / 12:00	9	RESPIRATION / INCREASED RESPIRATORY RATE	+
			19-JUN-88	14:08	6 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			20-JUN-88	13:23	7 / 12:30	10	NORMAL / NO SIGNIFICANT FINDINGS	+
			21-JUN-88	11:15	8 / 10:45	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			22-JUN-88	13:32	9 / 13:04	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88	11:44	10 / 11:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			24-JUN-88	09:48	11 / 09:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			25-JUN-88	08:45	12 / 08:13	11	NORMAL / NO SIGNIFICANT FINDINGS	+
			26-JUN-88	10:29	13 / 10:06	11	NORMAL / NO SIGNIFICANT FINDINGS	+
			27-JUN-88	13:16	14 / 08:24	9	NORMAL / NO SIGNIFICANT FINDINGS	+
			28-JUN-88	09:12	15 / 07:30	9	SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)	+
69	88C0082	F 3/2	14-JUN-88	12:02	1 / 10:31	3	GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE ROUGH COAT	5
							RESPIRATION / INCREASED RESPIRATORY RATE	1

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69	88C0082	F 3/2	14-JUN-88	12:25	1 / 11:31	3 GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / HYPERACTIVE	1
			14-JUN-88	14:17	1 / 13:30	9 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / HYPERACTIVE	1
			15-JUN-88	13:45	2 / 10:24	9 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / HYPERACTIVE	3
			16-JUN-88	13:27	3 / 10:56	9 GENERAL HEALTH / HUNCHED POSTURE	1
			17-JUN-88	14:14	4 / 13:32	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			18-JUN-88	13:16	5 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			19-JUN-88	14:09	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			20-JUN-88	13:23	7 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	+
			21-JUN-88	11:15	8 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			22-JUN-88	13:32	9 / 13:05	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88	11:44	10 / 11:30	9 BEHAVIORAL / HYPERACTIVE	1
			24-JUN-88	09:48	11 / 09:30	9 BEHAVIORAL / HYPERACTIVE	1
			25-JUN-88	08:45	12 / 08:13	11 BEHAVIORAL / HYPERACTIVE	1
			26-JUN-88	10:29	13 / 10:06	11 BEHAVIORAL / HYPERACTIVE	1
			27-JUN-88	13:16	14 / 08:25	9 BEHAVIORAL / HYPERACTIVE	1
			28-JUN-88	09:12	15 / 07:30	9 SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)	+
70	88C0061	F 3/2	14-JUN-88	12:03	1 / 10:30	3 RESPIRATION / INCREASED RESPIRATORY RATE	1
			14-JUN-88	12:25	1 / 11:30	3 NORMAL / NO SIGNIFICANT FINDINGS	+
			14-JUN-88	14:17	1 / 13:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			15-JUN-88	13:45	2 / ...	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			16-JUN-88	13:27	3 / ...	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			17-JUN-88	14:14	4 / 13:32	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			18-JUN-88	13:16	5 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			19-JUN-88	14:09	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			20-JUN-88	13:23	7 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	+
			21-JUN-88	11:15	8 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			22-JUN-88	13:32	9 / 13:04	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88	11:44	10 / 11:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+

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LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

ACUTE/IV

CAGE #	ANIMAL	GROUP/	DATE	AND	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
#	NUMBER	SEX	DATA	WERE	ENTERED	DATA WERE TAKEN	#	
70	88C0061	F	3/2	24-JUN-88	09:48	11 / 09:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				25-JUN-88	08:45	12 / 08:14	11 NORMAL / NO SIGNIFICANT FINDINGS	+
				26-JUN-88	10:29	13 / 10:07	11 NORMAL / NO SIGNIFICANT FINDINGS	+
				27-JUN-88	13:16	14 / 08:26	9 NORMAL / NO SIGNIFICANT FINDINGS	+
				28-JUN-88	09:13	15 / 07:30	9 SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)	+
71	88C0074	F	4/1	14-JUN-88	12:04	1 / 10:35	3 GENERAL HEALTH / HUNCHED POSTURE	3
							/ ROUGH COAT	3
							BEHAVIORAL / HYPERACTIVE	3
							RESPIRATION / INCREASED RESPIRATORY RATE	3
				14-JUN-88	12:26	1 / 11:36	3 GENERAL HEALTH / HUNCHED POSTURE	3
							/ ROUGH COAT	5
							BEHAVIORAL / HYPERACTIVE	3
							RESPIRATION / INCREASED RESPIRATORY RATE	3
				14-JUN-88	14:18	1 / 13:37	9 GENERAL HEALTH / HUNCHED POSTURE	3
							/ ROUGH COAT	3
							RESPIRATION / INCREASED RESPIRATORY RATE	3
				15-JUN-88	13:46	2 / 10:00	9 GENERAL HEALTH / HUNCHED POSTURE	1
							/ ROUGH COAT	1
							RESPIRATION / INCREASED RESPIRATORY RATE	1
				16-JUN-88	13:28	3 / 10:58	9 GENERAL HEALTH / HUNCHED POSTURE	1
							/ ROUGH COAT	1
							BEHAVIORAL / HYPERACTIVE	1
							RESPIRATION / INCREASED RESPIRATORY RATE	1
				17-JUN-88	10:56	4 / 07:30	9 GENERAL HEALTH / HUNCHED POSTURE	1
							/ ROUGH COAT	1
							BEHAVIORAL / HYPERACTIVE	1
							RESPIRATION / INCREASED RESPIRATORY RATE	1
72	88C0060	F	4/1	14-JUN-88	12:04	1 / 10:36	3 RESPIRATION / INCREASED RESPIRATORY RATE	+
				14-JUN-88	12:27	1 / 11:36	3 BEHAVIORAL / INACTIVE	3
				14-JUN-88	14:19	1 / 13:39	9 BEHAVIORAL / INACTIVE	1
				15-JUN-88	13:50	2 / 10:01	9 RESPIRATION / INCREASED RESPIRATORY RATE	1
				16-JUN-88	13:26	3 / 10:58	9 NORMAL / NO SIGNIFICANT FINDINGS	+

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88 ACUTE/IV

CAGE #	ANIMAL #	GROUP/SEX	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
72	88C0060	F 4/1	17-JUN-88	10:57	4 / 07:30	9 SACRIFICE / NORMAL / EUTHANIZED	+
73	88C0066	F 4/1	14-JUN-88	12:05	1 / 10:37	3 GENERAL HEALTH / HUNCHED POSTURE	1
			14-JUN-88	12:27	1 / 11:38	3 NORMAL / NO SIGNIFICANT FINDINGS	+
			14-JUN-88	14:19	1 / 13:39	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			15-JUN-88	13:50	2 / 10:02	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			16-JUN-88	13:28	3 / 10:59	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			17-JUN-88	10:58	4 / 07:30	9 SACRIFICE / NORMAL / EUTHANIZED	+
74	88C0052	F 4/1	14-JUN-88	12:06	1 / 10:38	3 GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / INACTIVE	3
			14-JUN-88	12:27	1 / 11:38	3 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / INACTIVE	1
			14-JUN-88	14:19	1 / 13:40	9 GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / INACTIVE	1
			15-JUN-88	13:51	2 / 10:03	9 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE	3
			16-JUN-88	13:28	3 / 11:00	9 GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
			17-JUN-88	10:59	4 / 07:30	9 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE / ROUGH COAT	1
			14-JUN-88	12:07	1 / 10:43	3 RESPIRATION / INCREASED RESPIRATORY RATE SACRIFICE / EUTHANIZED	1
75	88C0077	F 4/1	14-JUN-88	12:27	1 / 11:42	3 GENERAL HEALTH / HUNCHED POSTURE RESPIRATION / INCREASED RESPIRATORY RATE	3
			14-JUN-88	14:30	1 / 13:44	9 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / INACTIVE	3
			15-JUN-88	13:52	2 / 10:04	9 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / TREMORS / INACTIVE	1

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

ACUTE/IV

CAGE #	ANIMAL	GROUP/SEX	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
75	88C0077	F 4/1	15-JUN-88	13:52	2 / 10:04	9 RESPIRATION / INCREASED RESPIRATORY RATE	3
			16-JUN-88	13:29	3 / 11:00	9 GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / INACTIVE	3
			17-JUN-88	...	4 / 07:30	RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / INACTIVE	1
						RESPIRATION / INCREASED RESPIRATORY RATE SACRIFICE / EUTHANIZED	1
76	88C0090	F 4/2	14-JUN-88	12:08	1 / 10:44	3 GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / HYPERACTIVE	3
			14-JUN-88	12:28	1 / 11:44	3 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / ATAXIA	3
			14-JUN-88	14:30	1 / 13:44	9 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / ATAXIA	3
			15-JUN-88	13:54	2 / 10:05	9 RESPIRATION / INCREASED RESPIRATORY RATE BEHAVIORAL / HYPERACTIVE	3
			16-JUN-88	13:29	3 / 11:01	9 RESPIRATION / INCREASED RESPIRATORY RATE GENERAL HEALTH / HUNCHED POSTURE BEHAVIORAL / HYPERACTIVE	3
			17-JUN-88	14:15	4 / 13:32	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			18-JUN-88	13:16	5 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			19-JUN-88	14:09	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			20-JUN-88	13:24	7 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	+
			21-JUN-88	11:15	8 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			22-JUN-88	13:32	9 / 13:05	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			23-JUN-88	11:45	10 / 11:30	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			24-JUN-88	09:48	11 / 09:30	9 BEHAVIORAL / HYPERACTIVE	3
			25-JUN-88	08:46	12 / 08:14	11 BEHAVIORAL / HYPERACTIVE	3
			26-JUN-88	10:30	13 / 10:07	11 NORMAL / NO SIGNIFICANT FINDINGS	+
			27-JUN-88	13:16	14 / 08:27	9 NORMAL / NO SIGNIFICANT FINDINGS	+
			28-JUN-88	09:13	15 / 07:30	9 SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)	+

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

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CAGE #	ANIMAL GROUP/SEX	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
77	88C0067 F	4/2	14-JUN-88	12:08	1 / 10:47	3
			14-JUN-88	12:28	1 / 11:47	3
			14-JUN-88	14:31	1 / 14:50	3
			15-JUN-88	13:54	2 / 10:07	1
			16-JUN-88	13:29	3 / 11:01	1
			17-JUN-88	14:15	4 / 13:33	+
			18-JUN-88	13:16	5 / 12:00	+
			19-JUN-88	14:09	6 / 12:00	+
			20-JUN-88	13:24	7 / 12:30	+
			21-JUN-88	11:15	8 / 10:45	+
			22-JUN-88	13:33	9 / 13:05	+
			23-JUN-88	11:45	10 / 11:30	+
			24-JUN-88	09:48	11 / 09:30	+
			25-JUN-88	08:46	12 / 08:15	+
			26-JUN-88	10:30	13 / 10:08	+
			27-JUN-88	13:17	14 / 08:27	+
			28-JUN-88	09:13	15 / 07:30	+
78	88C0053 F	4/2	14-JUN-88	12:09	1 / 10:48	3
			14-JUN-88	12:29	1 / 11:49	1
			14-JUN-88	14:31	1 / 13:52	1
			15-JUN-88	13:54	2 / 10:09	1
			16-JUN-88	13:30	3 / 11:02	1

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CAGE #	ANIMAL #	GROUP/ SURGROUP	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE
78	88C0053	F 4/2	17-JUN-88	14:15	4 / 13:33	9 RESPIRATION / INCREASED RESPIRATORY RATE	1
			18-JUN-88	13:16	5 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			19-JUN-88	14:10	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			20-JUN-88	13:24	7 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	1
			21-JUN-88	11:15	8 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			22-JUN-88	13:33	9 / 13:06	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			23-JUN-88	11:46	10 / 11:30	9 GENERAL HEALTH / ROUGH COAT	1
			24-JUN-88	09:49	11 / 09:30	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			25-JUN-88	08:46	12 / 08:16	11 NORMAL / NO SIGNIFICANT FINDINGS	1
			26-JUN-88	10:31	13 / 10:08	11 NORMAL / NO SIGNIFICANT FINDINGS	1
			27-JUN-88	13:17	14 / 08:28	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			28-JUN-88	09:14	15 / 07:30	9 SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)	1
79	88C0068	F 4/2	14-JUN-88	12:10	1 / 10:52	3 GENERAL HEALTH / HUNCHED POSTURE	1
						OCULAR / EYES PALE	1
			14-JUN-88	12:29	1 / 11:52	3 RESPIRATION / INCREASED RESPIRATORY RATE	1
						GENERAL HEALTH / HUNCHED POSTURE	1
						OCULAR / EYES PALE	1
			14-JUN-88	14:31	1 / 13:53	9 RESPIRATION / INCREASED RESPIRATORY RATE	5
						GENERAL HEALTH / HUNCHED POSTURE	3
						OCULAR / EYES PALE	3
			15-JUN-88	13:55	2 / 10:10	9 RESPIRATION / INCREASED RESPIRATORY RATE	3
			16-JUN-88	13:30	3 / 11:02	9 GENERAL HEALTH / HUNCHED POSTURE	1
			17-JUN-88	14:15	4 / 13:34	9 GENERAL HEALTH / HUNCHED POSTURE	1
			18-JUN-88	13:16	5 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			19-JUN-88	14:10	6 / 12:00	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			20-JUN-88	13:24	7 / 12:30	10 NORMAL / NO SIGNIFICANT FINDINGS	1
			21-JUN-88	11:16	8 / 10:45	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			22-JUN-88	13:33	9 / 13:06	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			23-JUN-88	11:46	10 / 11:30	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			24-JUN-88	09:49	11 / 09:30	9 NORMAL / NO SIGNIFICANT FINDINGS	1
			25-JUN-88	08:46	12 / 08:16	11 NORMAL / NO SIGNIFICANT FINDINGS	1

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APPENDIX D: INDIVIDUAL ANIMAL HISTORIES
STUDY NUMBER: 88001

PRINTED: 21-SEP-88

STUDY START DATE: 13-JUN-88

CAGE #	ANIMAL	GROUP/ SUBGROUP	DATE	TIME	STUDY DAY/TIME OPER.	CLINICAL OBSERVATIONS	*SEV. GRADE		
79	88C0068	F	4/2	26-JUN-88	10:31	13 / 10:08	11	NORMAL / NO SIGNIFICANT FINDINGS	+
				27-JUN-88	13:17	14 / 08:28	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				28-JUN-88	09:15	15 / 07:30	9	SACRIFICE / EUTHANIZED (NO SIGNS RECORDED)	+
80	88C0051	F	4/2	14-JUN-88	12:10	1 / 10:54	3	BEHAVIORAL / DISORIENTED	-
				14-JUN-88	12:29	1 / 11:54	3	RESPIRATION / INCREASED RESPIRATORY RATE	3
				14-JUN-88	14:31	1 / 13:54	9	BEHAVIORAL / DISORIENTED	1
				15-JUN-88	13:55	2 / ...	9	RESPIRATION / INCREASED RESPIRATORY RATE	3
				16-JUN-88	13:30	3 / ...	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				17-JUN-88	14:15	4 / 13:36	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				18-JUN-88	13:16	5 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				19-JUN-88	14:10	6 / 12:00	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				20-JUN-88	13:24	7 / 12:30	10	NORMAL / NO SIGNIFICANT FINDINGS	+
				21-JUN-88	11:16	8 / 10:45	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				22-JUN-88	13:33	9 / 13:08	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				23-JUN-88	11:46	10 / 11:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				24-JUN-88	09:49	11 / 09:30	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				25-JUN-88	08:46	12 / 08:17	11	NORMAL / NO SIGNIFICANT FINDINGS	+
				26-JUN-88	10:31	13 / 10:08	11	NORMAL / NO SIGNIFICANT FINDINGS	+
				27-JUN-88	13:17	14 / 08:29	9	NORMAL / NO SIGNIFICANT FINDINGS	+
				28-JUN-88	09:15	15 / 07:30	9	SACRIFICE / NORMAL / EUTHANIZED	+

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Appendix E: BODY WEIGHTS (GMS) - MALES

		DAY OF STUDY						
ANIMAL GROUP		-18	-13	-7	0	3	7	14
88C00-								
08	1/1	22.7	25.9	29.7	31.5	31.3		
27	1/1	24.5	27.7	31.0	35.6	33.6		
35	1/1	22.3	25.1	28.9	31.6	died		
42	1/1	23.7	26.2	30.3	32.1	32.5		
48	1/1	19.2	26.8	30.0	32.1	29.5		
03	1/2	24.7	29.3	33.3	36.7		34.3	36
11	1/2	25.1	27.7	32.1	34.7		33.9	36
12	1/2	21.3	15.5	22.3	18.8		18.2	27
23	1/2	22.5	24.8	29.7	32.6		31.4	33
43	1/2	23.7	26.6	27.9	32.5		NR*	33
Mean		23.0	25.6	29.5	31.8	31.7	29.5	33.0
Std Dev		1.79	3.78	2.97	4.91	1.76	7.61	3.67
SEM		0.56	1.19	0.94	1.55	0.88	3.80	1.64
14	2/1	26.2	30.3	33.2	35.7	34.5		
20	2/1	24.0	17.9	29.9	32.9	34.2		
29	2/1	23.8	25.8	27.8	28.2	28.2		
37	2/1	19.3	13.3	25.2	29.6	31.1		
46	2/1	25.7	28.5	31.9	33.4	31.4		
09	2/2	23.9	26.8	29.0	32.7		30.7	37
16	2/2	21.6	26.5	32.5	34.4	died		
22	2/2	22.4	26.2	31.4	34.5		34.1	35
41	2/2	24.7	27.1	30.9	33.9		32.3	33
45	2/2	20.1	22.5	26.0	31.4		32.3	33
Mean		23.2	24.5	29.8	32.7	31.9	32.4	34.5
Std Dev		2.29	5.20	2.73	2.32	2.58	1.39	1.91
SEM		0.72	1.64	0.86	0.74	1.15	0.69	0.96

* Not recorded

Appendix E (cont.): BODY WEIGHTS (GMS) - MALES

		DAY OF STUDY						
ANIMAL	GROUP	-18	-13	-7	0	3	7	14
88C00-								
04	3/1	23.1	24.7	27.0	30.1	31.0		
05	3/1	24.1	25.9	29.0	32.1	27.8		
21	3/1	24.8	27.7	30.8	31.8	31.7		
36	3/1	26.0	28.2	33.0	34.8	35.2		
44	3/1	24.2	27.1	29.9	33.9	33.6		
02	3/2	21.2	24.4	27.5	31.1		30.9	22
18	3/2	24.2	26.5	29.3	30.5		29.2	22
19	3/2	23.5	28.9	34.9	36.3		33.7	36
26	3/2	20.1	22.3	25.2	27.5		27.5	29
30	3/2	25.3	28.2	31.1	34.3		34.8	35
Mean		23.7	26.4	29.8	32.2	31.9	31.2	28.8
Std Dev		1.80	2.08	2.87	2.62	2.80	3.04	6.76
SEM		0.57	0.66	0.91	0.83	1.25	1.36	3.02
13	4/1	25.5	26.9	30.0	34.0	33.5		
17	4/1	23.0	25.1	29.1	31.4	31.1		
28	4/1	24.4	27.6	27.7	33.8	32.7		
32	4/1	20.5	22.3	24.8	26.1	26.2		
34	4/1	24.6	27.8	30.9	34.0	33.7		
06	4/2	26.9	28.5	33.1	35.1		34.9	36
07	4/2	24.4	27.2	30.5	31.4		30.1	24
15	4/2	24.7	28.3	31.8	34.2		33.4	35
25	4/2	21.6	23.1	25.5	22.3		26.4	26
33	4/2	21.8	24.8	27.9	30.0		28.9	31
Mean		23.7	26.2	29.1	31.2	31.4	30.7	30.4
Std Dev		1.97	2.20	2.67	4.13	3.10	3.43	5.32
SEM		0.62	0.70	0.84	1.31	1.39	1.53	2.38

Appendix E (cont.): BODY WEIGHTS (GMS) - FEMALES

		DAY OF STUDY						
ANIMAL GROUP		-19	-14	-8	0	3	6	14
10000-								
71	1/1	19.9	21.3	23.7	25.7	24.9		
78	1/1	19.1	22.3	24.0	22.8	27.5		
81	1/1	20.6	22.8	25.3	27.9	27.6		
86	1/1	22.8	21.4	22.7	28.5	28.6		
91	1/1	19.2	21.5	22.4	24.0	died		
50	1/2	16.5	21.3	26.0	26.3		24.2	24
58	1/2	19.2	12.8	26.8	30.1		30.2	34
63	1/2	25.0	25.5	28.0	30.0		29.2	31
79	1/2	19.3	21.1	23.7	24.9		25.1	28
87	1/2	18.3	23.7	24.9	26.6		27.4	29
Mean		20.0	21.4	24.8	26.7	27.2	27.2	29.2
Std Dev		2.38	3.32	1.80	2.45	1.58	2.57	3.70
SEM		0.75	1.05	0.57	0.77	0.79	1.15	1.66
57	2/1	21.1	21.3	23.4	26.3	25.7		
73	2/1	21.8	22.1	24.4	26.4	26.2		
80	2/1	16.9	16.3	24.9	28.7	28.1		
84	2/1	19.6	22.2	23.3	26.3	25.4		
96	2/1	19.9	20.5	24.0	24.2	23.6		
59	2/2	19.3	23.6	26.9	30.9		29.7	31
62	2/2	24.1	25.3	27.5	26.9		25.5	31
64	2/2	19.3	23.6	24.7	27.8		27.8	29
75	2/2	22.6	23.8	25.4	28.7		27.7	31
88	2/2	22.2	20.1	21.9	25.1		25.2	30
Mean		20.7	21.9	24.6	27.1	25.8	27.2	30.4
Std Dev		2.08	2.54	1.67	1.95	1.62	1.85	0.89
SEM		0.66	0.80	0.53	0.62	0.72	0.83	0.40

**Appendix E (cont.): BODY WEIGHTS (GMS)
FEMALES**

ANIMAL GROUP		DAY OF STUDY						
		-19	-14	-8	0	3	6	14
88C00-								
49	3/1	20.5	21.8	23.7	27.4	28.9		
54	3/1	21.3	22.1	24.2	27.0	27.3		
55	3/1	22.9	24.8	27.1	29.0	28.2		
83	3/1	21.9	24.7	24.9	28.5	28.6		
93	3/1	22.3	25.2	26.3	28.7	31.5		
61	3/2	23.7	23.8	25.7	26.4		28.7	29
70	3/2	21.9	19.5	25.3	29.1		29.1	32
82	3/2	19.4	21.3	21.6	22.7		23.1	25
85	3/2	21.0	23.3	23.7	27.2		26.2	29
94	3/2	20.5	22.2	23.4	23.1		26.4	28
Mean		21.5	22.9	24.6	26.9	28.9	26.7	28.6
Std Dev		1.27	1.81	1.60	2.30	1.57	2.40	2.51
SEM		0.40	0.57	0.51	0.73	0.70	1.07	1.12
52	4/1	21.2	22.2	23.6	24.0	26.5		
60	4/1	20.4	21.9	24.1	24.5	25.5		
66	4/1	21.4	23.2	24.7	26.0	26.4		
74	4/1	23.8	24.7	28.3	29.7	31.0		
77	4/1	19.2	19.7	22.9	25.0	25.1		
51	4/2	20.8	21.3	25.1	21.9		24.9	27
53	4/2	19.2	20.9	22.5	24.9		24.6	28
67	4/2	22.1	24.7	26.3	26.6		27.1	30
68	4/2	19.4	14.7	25.7	27.8		27.5	31
90	4/2	20.8	23.3	23.9	23.8		22.5	26
Mean		20.8	21.7	24.7	25.4	26.9	25.3	28.4
Std Dev		1.43	2.92	1.73	2.21	2.37	2.04	2.07
SEM		0.45	0.92	0.55	0.70	1.06	0.91	0.93

Appendix F: PATHOLOGY REPORT

GLP Study 88001

Principal Investigator: CPT Denzil Frost
Co-Principal Investigator: CPT Gary Zaucha
Pathologist: MAJ David Young

I. INTRODUCTION:

Study: Acute mouse intravenous toxicity test.
Test Compound: Hypertonic Saline/Dextran (HSD)
Animal: Mouse (*Mus musculus*), ICR, 20-25 grams, male
and female.

Dosage Groups:

Group 1:	(HSD)	28 ml/kg
Group 2:	(Hypertonic Saline)	28 ml/kg
Group 3:	(Dextran 70)	28 ml/kg
Group 4:	(Lactated Ringer's)	28 ml/kg

II. SUMMARY OF PROCEDURES:

Euthanasia: Sodium pentobarbital, IP (One subgroup at
72 hrs; one subgroup at 14 days)
Fixative: 10% Neutral Buffered Formalin
Histopathology: Routine.

III. GROSS FINDINGS:

Table 1 lists animals from all groups with recorded gross lesions. No gross lesions were considered to be related to the test compounds.

IV. MICROSCOPIC FINDINGS:

Tissues saved for microscopic examination from all groups include brain, heart, liver, lung, spleen and kidney.

Table 2 lists the incidence summary (with percentages) for all microscopic observations. The most frequent lesions were present in the lungs (congestion) and liver (subacute minimal hepatitis). Multiple findings of lower incidence include hepatic sinusoidal congestion and renal cortical cysts, often with an associated minimal subacute interstitial nephritis. Single cases of cardiac myofiber mineralization, hepatic necrosis and renal pelvis mononuclear infiltrate were present.

Appendix F (cont.): PATHOLOGY REPORT

The incidence summary for microscopic observations of nonneoplastic graded diagnoses are listed on Table 3. Analysis of these findings using the Kolmogorov-Smirnov two-tailed test revealed no significant differences at the 0.05 level. Annex A lists the individual animal report of gross and microscopic diagnoses.

V. SUMMARY COMMENTS:

The etiology of the single case of mild hepatic necrosis was not determined. The multiple cases of minimal and often focal hepatitis were most consistent with liver lesions caused by mouse hepatitis virus. The pulmonary and hepatic sinusoidal congestion indicated local variation in vascular perfusion and was most likely a consequence of exsanguination while under barbiturate anesthesia. Other lesions observed in these mice were interpreted as incidental findings of little to no clinical significance. No lesions were considered related to the test compound or procedure.

Charles 3 Clippy DVM PhD
for G. DAVID YOUNG
MAJ, VC
Division of Pathology

15 August 1988/dbj

Appendix F (cont.): PATHOLOGY REPORT

GLOSSARY OF MICROSCOPIC FINDINGS

HEART

1. Mineral deposition - Cardiac myofibers are replaced by multiple and variable amounts of mineral, with an absence of inflammatory response. A few adjacent myofibers are degenerative. Coded as present.

LUNGS

1. Perivascularitis/vasculitis - Arterioles are surrounded by neutrophils and few lymphocytes. The neutrophils are present and margined within the lumen of the vessel and are transmigrating through the vascular wall. A minimal amount of hyaline necrosis is present within the vessel wall.

Severity grades are as follows:

- Trace = Small, widely scattered foci not to exceed three foci per lung section.
- Mild = Four to six small foci of inflammatory cells.
- Moderate = Seven to ten small foci or presence of three more foci with extension of inflammation into the pulmonary parenchyma (alveolar regions).
- Marked = More than ten small foci or more than four large foci.

2. Congestion - Vascular spaces are distended with large amounts of blood. Coded as present when the congestion constitutes a prominent histologic characteristic.

LIVER

1. Sinusoidal congestion - See lungs.

2. Necrosis - Discrete areas of hepatocellular architectural disruption contain cells with nuclear and cytoplasmic changes with retention of their cellular outlines. Cytologic changes include pyknosis and loss of nuclei with an eosinophilic swelling of the cytoplasm. Few inflammatory cells, consisting of neutrophils and lymphocytes are present.

Severity grade criteria for this lesion are as follows:

- Trace = Necrotic area is no larger than a 40x microscopic field.
- Mild = Combined areas of focal or multifocal necrotic lesions are less than 10% of the liver section.
- Moderate = Combined areas of focal or multifocal necrotic lesions are 10% - 20% of the liver section.

Appendix F (cont.): PATHOLOGY REPORT

Marked = Combined areas of focal or multifocal necrotic lesions are 20% - 40% of the liver section.
 Severe = Combined areas of focal or multifocal necrotic lesions are greater than 40% of the liver section.

3. Hepatitis - Subacute inflammatory lesions in the liver consist of small focal accumulations of neutrophils, lymphocytes and macrophages within the hepatic parenchyma. Individual cell necrosis or degeneration of hepatocytes within these inflammatory foci are occasionally observed. Severity grade criteria are based on the number of inflammatory cell foci present:

Trace = One to three foci.
 Mild = Four to ten foci.
 Moderate = Ten to twenty foci.
 Marked = More than twenty foci.

KIDNEYS

1. Cortical cysts - One or more cystic spaces are present within the renal cortex. The cysts are lined by flattened epithelium and may be empty or filled with pale homogenous eosinophilic fluid. Coded as present.

2. Interstitial nephritis - Interstitial accumulation of lymphocytes, macrophages and few neutrophils are primarily and almost exclusively associated with and abutting the cortical cysts. Severity grade criteria are as follows:

Trace = Small foci not to exceed three per kidney section.
 Mild = Four to six small foci.
 Moderate = Seven to ten small foci or the presence of three or more foci with extension into and obliteration of renal tubules and glomeruli.
 Marked = More than ten small foci or more than four large foci.

3. Mononuclear cell infiltrate - Focal infiltration of macrophages and lymphocytes are immediately subjacent to the urothelium of the renal pelvis. Severity grade criteria are as follows:

Trace = One to two small foci.
 Mild = Three to five small foci.
 Moderate = Six to ten small foci or one to three larger foci not exceeding a 40x microscopic field.
 Marked = More than ten small foci or more than four large foci.

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Incidence Summary Report for Gross Necropsy Observations
Study Number: 88001
Report includes all dead animals
Study Start Date: 13-Jun-88

PRINTED: 18-Jan-89
Page: 1

ACUTE/

	Males				Females			
	Ctl's	1	2	3	Ctl's	1	2	3
	10	10	10	10	10	10	10	10
CECUM								
DISTENTION	0	0	0	0	0	0	1	0
KIDNEYS								
CORTICAL CYST(S)	1	0	0	0	0	0	0	0
LIVER								
DISSEMINATED FOCI	0	0	0	1	0	0	0	0
CONGESTED	0	0	0	1	0	0	0	0
ENLARGED	0	1	1	0	0	1	0	0
LUNGS								
CONGESTED	0	1	0	0	0	0	0	0
SPLEEN								
DECREASED SIZE	0	0	0	1	0	0	0	0
TAIL								
NECROSIS	0	1	1	0	0	0	2	0
WHOLE BODY								
NO LESIONS RECOGNIZED	9	6	8	8	10	9	7	10
CONGESTION	0	0	0	0	0	1	0	0

Pathology Table 1

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Incidence Summary of Microscopic Observations
Study Number: 88001
All Diagnoses
Study Start Date: 13-Jun-88

PRINTED: 03-Feb-89
Page: 1

Notes: Animals = all dead animals Controls from group(s): 4		Animals		Affected		ACUTE/
Tissues With Diagnoses		Male	Female	Male	Female	
Animal sex:	Dosage group:	Ctl's		Ctl's		
No. in group:		10	10	10	10	
Number examined:		10	10	10	10	9
BRAIN						
HEART		10	10	10	10	9
MINERAL DEPOSITION		0	0	1	0	0
LUNGS		10	10	10	10	10
CONGESTION		0	2	1	2	1
ACUTE PERIVASCULITIS/VASCULITIS		0	0	0	0	1
LIVER		10	10	10	10	9
SINUSOIDAL CONGESTION		0	2	1	0	0
NECROSIS		0	1	0	0	0
HEPATITIS		2	3	1	0	0
KIDNEYS		10	10	10	10	9
CYST(S), CORTICAL		1	1	0	1	0
INTERSTITIAL NEPHRITIS		1	0	0	1	0
MONONUCLEAR CELL INFILTRATE (RENAL PELVIS)		0	1	0	0	0
SPLEEN		10	10	10	10	9

Pathology Table 3

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 1

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0001

Sex: Male

Group: 1

Terminal body weight (gms): 29.5

Day of death: 4

Status: Interim sacrifice 1

Tissue

Finding, severity

<< GROSS Observations >>

Gross Free-Text Comments

No gross observations recorded on animal.

Tissue

Necropsy memos

<< Necropsy Memos >>

WHOLE BODY

data entered for this animal are actually from 88C0048.

Tissue

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

LIVER

SINUSOIDAL CONGESTION, Present.

Annex A

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 2

Study Start Date: 13-Jun-88 ACUTE/

Animal: 88C0038 Sex: Male Status: Interim sacrifice 1 Group: 1 Dose level: Control
Day of death: 4 Terminal body weight (gms): 32.5

Tissue Finding, severity << GROSS Observations >> Gross Free-Text Comments

No gross observations recorded on animal.

<< Necropsy Memos >>

Tissue Necropsy memos
WHOLE BODY data entered for this animal are actually from 88C0042

Tissue << Pathology Observations >>
LIVER Histopathologic diagnoses / Special histological comments
HEPATITIS, Slight, Multifocal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

PRINTED: 24-Feb-89
Page: 3

Individual Animal Data Dump Table
Study Number: 88001

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0008

Sex: Male

Group: 1

Status: INTERIM SACRIFICE

Dose level: Control

Terminal body weight (gms): 31.0

Day of death: 4

Tissue Finding, severity << Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos << Necropsy Memos >>

No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 4

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0027 Sex: Male Status: INTERIM SACRIFICE Group: 1 Dose level: Control
Day of death: 4 Terminal body weight (gms): 34.0

Tissue Finding, severity << Gross Observations >> Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos

SKIN NO TAG ON ANIMAL.

Tissue << Pathology Observations >> Histopathologic diagnoses / Special histological comments

LIVER HEPATITIS, Slight, Focal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

PRINTED: 24-Feb-89
Page: 5

Individual Animal Data Dump Table
Study Number: 88001

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0035

Sex: Male

Group: 1

Dose level: Control

Day of death: 1

Status: FOUND DEAD

Terminal body weight (gms):

31.6

Tissue Finding, severity

<< Gross Observations >>

Gross Free-Text Comments

LIVER ENLARGED

LUNGS CONGESTED

Tissue Necropsy memos

<< Necropsy Memos >>

No necropsy memos recorded on animal

Tissue

<< Pathology Observations >>

Histopathologic diagnoses / Special histological comments

LUNGS

CONGESTION, Present.

LIVER

SINUSOIDAL CONGESTION, Present.
NECROSIS, Mild, Multifocal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 6

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0043 Sex: Male
Day of death: 15 Status: Final sacrifice

Group: 1

Dose level: Control
Terminal body weight (gms):

<< Gross Observations >>
Gross Free-Text Comments

Tissue Finding, severity

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos

No necropsy memos recorded on animal

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

LIVER

HEPATITIS, Slight, Multifocal.

KIDNEYS

CYST(S), CORTICAL, Present.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 7

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0011

Sex: Male

Group: 1

Dose level: Control

Day of death: 15

Status: Final sacrifice

Terminal body weight (gms):

Tissue

Finding, severity

<< Gross Observations >>

Gross Free-Text Comments

TAIL

NECROSIS, Mild

Tissue

Necropsy memos

<< Necropsy Memos >>

No necropsy memos recorded on animal

Tissue

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

KIDNEYS

MONONUCLEAR CELL INFILTRATE (RENAL PELVIS), Slight, Multifocal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 8

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0023

Sex: Male

Group: 1

Dose level: Control

Day of death: 15

Status: Final sacrifice

Terminal body weight (gms):

<< Gross Observations >>
Gross Free-Text Comments

Tissue Finding, severity

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos

EYES & OPTIC N. one globe perforated during removal

<< Pathology Observations >>

Tissue Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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 MOUSE/ICR

Individual Animal Data Dump Table
 Study Number: 88001

PRINTED: 24-Feb-89
 Page: 9

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0003

Sex: Male

Group: 1

Dose level: Control

Day of death: 15

Status: Final sacrifice

Terminal body weight (gms):

Tissue

Finding, severity

<< Gross Observations >>

Gross Free-Text Comments

WHOLE BODY

NO LESIONS RECOGNIZED.

Tissue

Necropsy memos

<< Necropsy Memos >>

No necropsy memos recorded on animal

Tissue

<< Pathology Observations >>

Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 10

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0012 Sex: Male
Day of death: 15 Status: Final sacrifice

Group: 1 Dose level: Control
Terminal body weight (gms):

Tissue Finding, severity << Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos

No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>

LUNGS CONGESTION, Present.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 11

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0046

Sex: Male

Group: 2

Dose level: Control

31.0

Terminal body weight (gms):

Status: INTERIM SACRIFICE

<< G r o s s O b s e r v a t i o n s >>

Gross Free-Text Comments

Finding, severity

NO LESIONS RECOGNIZED.

Tissue

<< N e c r o p s y M e m o s >>

Necropsy memos

No necropsy memos recorded on animal

<< P a t h o l o g y O b s e r v a t i o n s >>

Histopathologic diagnoses / Special histological comments

Tissue

LIVER

HEPATITIS, Slight, Multifocal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 12

Study Start Date: 13-Jun-88 ACUTE/

Animal: 88C0014 Sex: Male Dose level: Control
Day of death: 4 Status: INTERIM SACRIFICE Group: 2 Terminal body weight (gms): 35.0

Tissue Finding, severity << Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos << Necropsy Memos >>
No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>
All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
 DIV OF RES SUPP, PATH SERV GP
 PRESIDIO OF SAN FRANCISCO, CA 94129
 MOUSE/ICR

Individual Animal Data Dump Table
 Study Number: 88001

PRINTED: 24-Feb-89
 Page: 13

Animal: 88C0037	Sex: Male	Group: 2	Dose level: Control	ACUTE/
Day of death: 4	Status: INTERIM SACRIFICE		Terminal body weight (gms): 31.0	
Study Start Date: 13-Jun-88				
Tissue	Finding, severity	<< G r o s s O b s e r v a t i o n s >>		
WHOLE BODY	NO LESIONS RECOGNIZED.	Gross Free-Text Comments		
Tissue	Necropsy memos	<< N e c r o p s y M e m o s >>		
No necropsy memos recorded on animal				
Tissue	Histopathologic diagnoses / Special histological comments	<< P a t h o l o g y O b s e r v a t i o n s >>		
HEART	MINERAL DEPOSITION, Present.			

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 14

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0020 Sex: Male
Day of death: 4 Status: INTERIM SACRIFICE

Group: 2 Dose level: Control
Terminal body weight (gms): 34.0

Tissue Finding, severity << Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos

AORTA AORTA IN VIAL.

Tissue << Pathology Observations >>
Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0029

Sex: Male

Group: 2

Dose level: Control

Day of death: 4

Status: NORMAL, INTERIM SACRIFICE

Terminal body weight (gms):

28.0

Tissue Finding, severity

<< G r o s s O b s e r v a t i o n s >>

Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

<< N e c r o p s y M e m o s >>

Tissue Necropsy memos

No necropsy memos recorded on animal

<< P a t h o l o g y O b s e r v a t i o n s >>

Tissue Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Individual Animal Data Dump Table
Study Number: 88001

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Page: 16

Study Start Date: 13-Jun-88

Sex: Male

Status: Final sacrifice

Group: 2

Dose level: Control
Terminal body weight (gms):

ACUTE/

<<	Gross	Observations	>>
			Gross Free-Text Comments

<< Necropsy >>

No necropsy memos recorded on animal

Histopathologic diagnoses / Special histological comments << Pathology observations >>

All protocol required tissues normal.

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88 ACUTE/

Animal: 88C0022 Sex: Male Group: 2 Dose level: Control
Day of death: 15 Status: Final sacrifice Terminal body weight (gms):

Tissue Finding, severity << Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos << Necropsy Memos >>

No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

Study Start Date: 13-Jun-88

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ACUTE/

Animal: 88C0009 Sex: Male
Day of death: 15 Status: Final sacrifice

Group: 2

Dose level: Control
Terminal body weight (gms):

<< G R O S S O b s e r v a t i o n s >>
Gross Free-Text Comments

Tissue Finding, severity

WHOLE BODY NO LESIONS RECOGNIZED.

<< N E C R O P S Y M e m o s >>

Tissue Necropsy memos

No necropsy memos recorded on animal

<< P a t h o l o g y O b s e r v a t i o n s >>
Histopathologic diagnoses / Special histological comments

Tissue

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Animal: 88C0016	Sex: Male	Group: 2	Dose level: Control
Day of death: 1	Status: FOUND DEAD		Terminal body weight (gms): 34.4
		Study Start Date: 13-Jun-88	ACUTE/
Tissue	Finding, severity	<< Gross Observations >>	
LIVER	ENLARGED	Gross Free-Text Comments	
Tissue	Necropsy memos	<< Necropsy Memos >>	
No necropsy memos recorded on animal			
Tissue	Histopathologic diagnoses / Special histological comments	<< Pathology Observations >>	
LUNGS	CONGESTION, Present.		
LIVER	SINUSOIDAL CONGESTION, Present.		

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0041

Sex: Male

Status: Final sacrifice

Group: 2

Dose level: Control

Terminal body weight (gms):

Day of death: 15

<< G r o s s O b s e r v a t i o n s >>
Gross Free-Text Comments

Tissue Finding, severity

WHOLE BODY NO LESIONS RECOGNIZED.

<< N e c r o p s y M e m o s >>

Tissue Necropsy memos

No necropsy memos recorded on animal

<< P a t h o l o g y O b s e r v a t i o n s >>
Histopathologic diagnoses / Special histological comments

Tissue

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0036

Sex: Male

Group: 3

Status: INTERIM SACRIFICE

Terminal body weight (gms): 35.0
Dose level: Control

Day of death: 4

Tissue Finding, severity << Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos << Necropsy Memos >>

No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0044 Sex: Male Status: INTERIM SACRIFICE Group: 3 Terminal body weight (gms): 34.0
Day of death: 4

Tissue Finding, severity << Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos
RECTUM NO SKIN WITH RECTUM (NO FEED PELLETS, EITHER)

Tissue << Pathology Observations >>
Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0004

Sex: Male

Group: 3

Dose level: Control

Day of death: 4

Status: NORMAL, INTERIM SACRIFICE

Terminal body weight (gms):

31.0

Tissue

Finding, severity

<< GROSS Observations >>

Gross Free-Text Comments

WHOLE BODY

NO LESIONS RECOGNIZED.

Tissue

Necropsy memos

<< Necropsy Memos >>

RECTUM

RECTUM HAS NO SKIN BUT WITH FECAL BALL. AORTA IS IN THE VIAL.

Tissue

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

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Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88 ACUTE/

Animal: 88C0021

Sex: Male

Group: 3

Dose level: Control

Day of death: 4

Status: NORMAL, INTERIM SACRIFICE

Terminal body weight (gms): 32.0

<< GROSS Observations >>
Gross free-text Comments

Tissue Finding, severity

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos

No necropsy memos recorded on animal

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

Tissue

LUNGS CONGESTION, Present.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

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Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0005	Sex: Male	Group: 3	Dose level: Control
Day of death: 4	Status: NORMAL, INTERIM SACRIFICE	Terminal body weight (gms):	28.0
Tissue	Findings, severity	<< G r o s s O b s e r v a t i o n s >>	
WHOLE BODY	NO LESIONS RECOGNIZED.	Gross Free-Text Comments	
Tissue	Necropsy memos	<< N e c r o p s y M e m o s >>	
No necropsy memos recorded on animal			
Tissue	Histopathologic diagnoses / Special histological comments	<< P a t h o l o g y O b s e r v a t i o n s >>	
LUNGS	CONGESTION, Present.		

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0002 Sex: Male
Day of death: 15 Status: Final sacrifice

Group: 3

Terminal body weight (gms):
Dose level: Control

Tissue Finding, severity << Gross Observations >>
LIVER CONGESTED, Mild Gross free-Text Comments
ACCESSARY LOBE CONGESTED.

<< Necropsy Memos >>

Tissue Necropsy memos
No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments
<< Pathology Observations >>

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88 ACUTE/

Animal: 88C0018

Sex: Male

Group: 3

Dose level: Control

Status: Final sacrifice

Terminal body weight (gms):

Finding, severity

<< G r o s s O b s e r v a t i o n s >>

Gross Free-Text Comments

DISSEMINATED FOCI, Mild

WHITE TAN RANDOM FOCI

SPLEEN DECREASED SIZE, Mild

Tissue Necropsy memos

No necropsy memos recorded on animal

<< N e c r o p s y M e m o s >>

Tissue

<< P a t h o l o g y O b s e r v a t i o n s >>

Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

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Study Start Date: 13-Jun-88 ACUTE/

Animal: 88C0030

Sex: Male

Status: Final sacrifice

Group: 3

Dose level: Control
Terminal body weight (gms):

Day of death: 15

<< Gross Observations >>
Gross Free-Text Comments

Tissue Finding, severity

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos

No necropsy memos recorded on animal

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

Tissue

KIDNEYS

CYST(S), CORTICAL, Present.
INTERSTITIAL NEPHRITIS, Slight, Multifocal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0019 Sex: Male
Day of death: 15 Status: Final sacrifice

Group: 3

Dose level: Control
Terminal body weight (gms):

Tissue Finding, severity << Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos << Necropsy Memos >>

No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

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ACUTE/

Study Start Date: 13-Jun-88

Animal: 88C0026 Sex: Male Group: 3 Dose level: Control
Day of death: 15 Status: Final sacrifice Terminal body weight (gms):

Tissue Finding, severity << Gross Observations >> Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos
No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

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Individual Animal Data Dump Table
Study Number: 88001

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0017

Sex: Male

Status: NORMAL, INTERIM SACRIFICE

Group: 4

Dose level: Control

Terminal body weight (gms): 31.0

Day of death: 4

Tissue Finding, severity

<< Gross Observations >>

Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos

<< Necropsy Memos >>

No necropsy memos recorded on animal

Tissue

<< Pathology Observations >>

Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0013

Sex: Male

Day of death: 4

Status: NORMAL, INTERIM SACRIFICE

Group: 4

Dose level: Control

Terminal body weight (gms): 34.0

Tissue finding, severity

<< Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos

<< Necropsy Memos >>

No necropsy memos recorded on animal

Tissue

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

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Individual Animal Data Dump Table
Study Number: 88001

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0028

Sex: Male

Group: 4

Status: NORMAL, INTERIM SACRIFICE

Dose level: Control
Terminal body weight (gms): 33.0

Day of death: 4

Tissue Finding, severity << Gross Observations >>
Gross Free-Text Comments

WHOLE BODY

NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos

No necropsy memos recorded on animal

Tissue << Pathology Observations >>
Histopathologic diagnoses / Special histological comments

LIVER

HEPATITIS, Slight, Multifocal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0032

Sex: Male

Group: 4

Dose level: Control
27.0

Day of death: 4

Status: NORMAL, INTERIM SACRIFICE

Terminal body weight (gms):

27.0

<< Gross Observations >>
Gross Free-Text Comments

Tissue Finding, severity

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos

No necropsy memos recorded on animal

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

Tissue

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88 ACUTE/

Animal: 88C0034 Sex: Male
Day of death: 4 Status: NORMAL, INTERIM SACRIFICE Group: 4 Dose level: Control
Terminal body weight (gms): 34.0
Tissue Finding, severity << Gross Observations >>
Gross Free-Text Comments
WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos << Necropsy Memos >>
No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>
All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0015 Sex: Male Group: 4 Dose level: Control
Day of death: 15 Status: Final sacrifice Terminal body weight (gms):

Tissue Finding, severity << Gross Observations >> Gross Free-Text Comments

KIDNEYS CORTICAL CYST(S), Mild BILATERAL

Tissue Necropsy memos << Necropsy Memos >>

No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>

KIDNEYS CYST(S), CORTICAL, Present.
INTERSTITIAL NEPHRITIS, Slight, Focal.

Annex A (cont.)

Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

Animal:	88C0033
Day of death:	15
Sex:	Male
Status:	Final sacrifice
Group:	4
Dose level:	Control
Terminal body weight (gms):	

Tissue	Finding, severity	Gross	Observations	Gross Free-Text Comments
WHOLE BODY	NO LESIONS RECOGNIZED.			

	<< Necropsy Memos >>
Tissue	Necropsy memos
No necropsy memos	recorded on animal

Tissue	<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments	
HEPATITIS, Slight, Focal,	
LIVER	

Appendix F (cont.): PATHOLOGY REPORT

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Individual Animal Data Dump Table
Study Number: 88001

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0007 Sex: Male
Day of death: 15 Status: Final sacrifice

Group: 4 Dose level: Control
Terminal body weight (gms):

<< Gross Observations >>
Gross free-text comments

Tissue Finding, severity

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos

No necropsy memos recorded on animal

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

Tissue

All protocol required tissues normal.

Appendix F (cont.): PATHOLOGY REPORT

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Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

Animal: 88C0006 Sex: Male Group: 4 Dose level: Control ACUTE/
Day of death: 15 Status: Final sacrifice Terminal body weight (gms):

Tissue Finding, severity << Gross Observations >>
WHOLE BODY NO LESIONS RECOGNIZED. Gross Free-Text Comments

Tissue Necropsy memos << Necropsy Memos >>
No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>
All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0025 Sex: Male Group: 4 Dose level: Control
Day of death: 15 Status: Final sacrifice Terminal body weight (gms):

Tissue Finding, severity << GROSS Observations >>
WHOLE BODY NO LESIONS RECOGNIZED. Gross Free-Text Comments

Tissue Necropsy memos << Necropsy Memos >>
No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>
All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

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Individual Animal Data Dump Table
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Study Start Date: 13-Jun-88

Animal: 88C0086 Sex: Female Group: 1 Dose level: Control ACUTE/
Day of death: 4 Status: Interim sacrifice 1 Terminal body weight (gms):
Tissue Finding, severity << Gross Observations >>
WHOLE BODY NO LESIONS RECOGNIZED. Gross Free-Text Comments

<< Necropsy Memos >>

Tissue Necropsy memos
No necropsy memos recorded on animal

<< Pathology Observations >>
Tissue Histopathologic diagnoses / Special histological comments
LUNGS CONGESTION, Present.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

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Individual Animal Data Dump Table
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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0091

Sex: Female

Group: 1

Dose level: Control

Status: FOUND DEAD

Terminal body weight (gms): 24.0

24.0

<< Gross Observations >>
Gross Free-Text Comments

Finding, severity

CONGESTION

WHOLE BODY

ENLARGED

LIVER

<< Necropsy Memos >>

Necropsy memos

Tissue

No necropsy memos recorded on animal

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

Tissue

SINUSOIDAL CONGESTION, Present.

LIVER

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

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Individual Animal Data Dump Table
Study Number: 88001

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Animal: 88C0071 Sex: female Study Start Date: 13-Jun-88 ACUTE/
Day of death: 4 Status: Interim sacrifice 1 Group: 1 Dose level: Control
.....
.....
Tissue Finding, severity << Gross Observations >> Terminal body weight (gms):
.....
WHOLE BODY NO LESIONS RECOGNIZED. Gross Free-Text Comments
.....
Tissue Necropsy memos << Necropsy Memos >>
.....
MESENTERIC LYM N NO MLN TAKEN AT NECROPSY.
.....
Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>
.....
All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

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ACUTE/

Study Start Date: 13-Jun-88

Animal: 88C0078 Sex: Female Group: 1 Dose level: Control
Day of death: 4 Status: INTERIM SACRIFICE Terminal body weight (gms): 28.0
.....
Tissue Finding, severity << Gross Observations >> Gross Free-Text Comments
.....
WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos
.....
No necropsy memos recorded on animal

Tissue << Pathology Observations >>
.....
Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Appendix F (cont.): PATHOLOGY REPORT

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Individual Animal Data Dump Table
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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0081 Sex: Female Group: 1 Dose level: Control
Day of death: 4 Status: Interim sacrifice 1 Terminal body weight (gms):
Tissue Finding, severity << Gross Observations >>
WHOLE BODY NO LESIONS RECOGNIZED. Gross Free-Text Comments

Tissue Necropsy memos << Necropsy Memos >>
No necropsy memos recorded on animal

Tissue Mistopathologic diagnoses / Special histological comments << Pathology Observations >>
All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24 Feb-89
Page: 46

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0079 Sex: Female Group: 1 Dose level: Control
Day of death: 15 Status: Final sacrifice Terminal body weight (gms):
Tissue Finding, severity << Gross Observations >> Gross Free-Text Comments
WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos
No necropsy memos recorded on animal

<< Pathology Observations >>
Tissue Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
HOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 47

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0063

Sex: Female

Group: 1

Dose level: Control

Day of death: 15

Status: Final sacrifice

Terminal body weight (gms):

Tissue

Finding, severity

<< GROSS Observations >>

Gross Free-Text Comments

WHOLE BODY

NO LESIONS RECOGNIZED.

Tissue

Necropsy memos

<< Necropsy Memos >>

No necropsy memos recorded on animal

Tissue

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24 Feb-89
Page: 48

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0087 Sex: Female Group: 1 Dose level: Control
Day of death: 15 Status: Final sacrifice Terminal body weight (gms): 29.0

 << G r o s s O b s e r v a t i o n s >>
Tissue Finding, severity Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

 << N e c r o p s y M e m o s >>

Tissue Necropsy memos
No necropsy memos recorded on animal

 << P a t h o l o g y O b s e r v a t i o n s >>
Tissue Histopathologic diagnoses / Special histological comments

LUNGS CONGESTION, Present.

Appendix F (cont.): PATHOLOGY REPORT

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MOUSE/ICR

PRINTED: 24-Feb-89
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Individual Animal Data Dump Table
Study Number: 88001

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0050

Sex: Female

Group: 1

Dose level: Control

Day of death: 15

Status: Final sacrifice

Terminal body weight (gms):

Tissue

Finding, severity

<< Gross Observations >>

Gross Free-Text Comments

WHOLE BODY

NO LESIONS RECOGNIZED.

Tissue

Necropsy memos

<< Necropsy Memos >>

No necropsy memos recorded on animal

Tissue

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

LUNGS

CONGESTION, Present.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0058

Sex: Female

Group: 1

Dose level: Control

Day of death: 15

Status: Final sacrifice

Terminal body weight (gms):

34.0

Tissue Finding, severity

<< Gross Observations >>

Gross Free-Text Comments

WHOLE BODY

NO LESIONS RECOGNIZED.

Tissue

Necropsy memos

<< Necropsy Memos >>

No necropsy memos recorded on animal

Tissue

Histopathologic diagnoses / Special histological comments

<< Pathology Observations >>

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
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Study Start Date: 13-Jun-88

Animal: 88C0057 Sex: Female Group: 2 Dose level: Control ACUTE/
Day of death: 4 Status: Interim sacrifice 1 Terminal body weight (gms):

Tissue Finding, severity << Gross Observations >> Gross Free-Text Comments
TAIL NECROSIS, Moderate 50% SURFACE AREA OF TAIL NECROTIC.

Tissue Necropsy memos << Necropsy Memos >>
SKIN NO TAG ON ANIMAL AT TIME OF NECROPSY. NO SKIN WITH RECTUM.

Tissue << Pathology Observations >>
Histopathologic diagnoses / Special histological comments
All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0080
Day of death: 4

Sex: Female
Status: Interim sacrifice 1

Group: 2

Dose level: Control
Terminal body weight (gms):

Tissue Finding, severity
CECUM DISTENTION, Mild

<< GROSS Observations >>
Gross Free-Text Comments

DISTENDED AND CONGESTED, FLUID CONTENTS (POSS. PENTOBARBITAL)

<< Necropsy Memos >>

Tissue Necropsy memos

MESENTERIC LYM N NO MLN TAKEN AT NECROPSY.

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0084

Sex: Female

Group: 2

Dose level: Control

Status: Interim sacrifice 1

Terminal body weight (gms):

Dose level: Control

Tissue

Finding, severity

<< Gross Observations >>

Gross Free-Text Comments

WHOLE BODY

NO LESIONS RECOGNIZED.

Tissue

Necropsy memos

<< Necropsy Memos >>

No necropsy memos recorded on animal

Tissue

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0096

Sex: female

Group: 2

Dose level: Control

Day of death: 4

Status: Interim sacrifice 1

Terminal body weight (gms):

<< Gross Observations >>
Gross Free-Text Comments

Tissue Finding, severity

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos

No necropsy memos recorded on animal

<< Pathology Observations >>

Tissue Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0073

Sex: Female

Group: 2

Dose level: Control

Status: Interim sacrifice 1

Terminal body weight (gms):

.....

Tissue

Finding, severity

<< Gross Observations >>

Gross Free-Text Comments

WHOLE BODY

NO LESIONS RECOGNIZED.

Tissue

Necropsy memos

<< Necropsy Memos >>

No necropsy memos recorded on animal

Tissue

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
HOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 56

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0088

Sex: Female

Day of death: 15

Status: Final sacrifice

Group: 2

Dose level: Control
Terminal body weight (gms): 30.0

Tissue Finding, severity

<< Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos

No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments
<< Pathology Observations >>

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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HOUSE/ICR

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Individual Animal Data Dump Table
Study Number: 88001

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0062

Sex: Female

Status: Final sacrifice

Group: 2

Terminal body weight (gms): 31.0
Dose level: Control

Day of death: 15

Tissue Finding, severity
WHOLE BODY NO LESIONS RECOGNIZED.

<< G r o s s O b s e r v a t i o n s >>
Gross Free-Text Comments

Tissue Necropsy memos
No necropsy memos recorded on animal

<< N e c r o p s y M e m o s >>

Tissue Histopathologic diagnoses / Special histological comments
LUNGS CONGESTION, Present.

<< P a t h o l o g y O b s e r v a t i o n s >>

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0064 Sex: Female
Day of death: 15 Status: Final sacrifice

Group: 2

Dose level: Control
Terminal body weight (gms): 29.0

<< G r o s s O b s e r v a t i o n s >>
Gross Free-Text Comments

Tissue Finding, severity

WHOLE BODY NO LESIONS RECOGNIZED.

<< N e c r o p s y M e m o s >>

Tissue Necropsy memos

No necropsy memos recorded on animal

<< P a t h o l o g y O b s e r v a t i o n s >>
Tissue Mistopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

PRINTED: 24-Feb-89
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Individual Animal Data Dump Table
Study Number: 88001

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0075

Sex: Female

Group: 2

Status: Final sacrifice

Terminal body weight (gms): 31.0

Dose level: Control

Day of death: 15

Tissue

Finding, severity

<< Gross Observations >>

Gross Free-Text Comments

TAIL

NECROSIS, Moderate

1/3 OF TAIL GONE.

Tissue

Necropsy memos

<< Necropsy Memos >>

No necropsy memos recorded on animal

Tissue

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 60

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0059

Sex: Female

Group: 2

Dose level: Control

Day of death: 15

Status: Final sacrifice

Terminal body weight (gms): 31.0

Tissue Finding, severity

<< Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos
AORTA Aorta destroyed at necropsy.

<< Necropsy Memos >>

Tissue Histopathologic diagnoses / Special histological comments
LUNGS CONGESTION, Present.

<< Pathology Observations >>

Annex A (cont.)

Appendix E (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
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HOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24 JUN 88

Study Start Date: 13-Jun-88

Animal: 88C0055

Sex: Female

Group: 3

Dose level: Control

Status: Interim sacrifice 1

Terminal body weight (gms):

.....E/

<< G R O S S O b s e r v a t i o n s >>
Gross Free-Text Comments

Tissue Finding, severity

WHOLE BODY NO LESIONS RECOGNIZED.

<< N e c r o p s y M e m o s >>

Tissue Necropsy memos

No necropsy memos recorded on animal

<< P a t h o l o g y O b s e r v a t i o n s >>
Histopathologic diagnoses / Special histological comments

LUNGS

CONGESTION, Present.

.....A (.....)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Page: 62

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0083 Sex: Female Dose level: Control
Day of death: 4 Status: Interim sacrifice 1 Group: 3 Terminal body weight (gms):
Tissue Finding, severity << Gross Observations >> Gross free-text Comments
WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos
SKIN NO TAG ON ANIMAL.

<< Pathology Observations >>

Tissue Histopathologic diagnoses / Special histological comments
All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88 ACUTE/

Animal: 88C0054

Sex: Female

Group: 3

Dose level: Control

Status: Interim sacrifice 1

Terminal body weight (gms):

<< Gross Observations >>
Gross Free-Text Comments

Tissue Finding, severity

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos

WHOLE BODY NO MEMOS

<< Pathology Observations >>
Histopathologic diagnoses / Special histological comments

Tissue

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Animal: 88C0049 Sex: Female Study Start Date: 13-Jun-88 ACUTE/

Day of death: 4 Status: Interim sacrifice 1 Group: 3 Terminal body weight (gms): Dose level: Control

Tissue Finding, severity << Gross Observations >> Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED. << Necropsy Memos >>

Tissue Necropsy memos

PITUITARY GLAND PIT. GLD. IN WITH ADRENALS.

Tissue << Pathology Observations >> Histopathologic diagnoses / Special histological comments

LUNGS ACUTE PERIVASCULITIS/VASCULITIS, slight, Multifocal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

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Individual Animal Data Dump Table
Study Number: 88001

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0093

Sex: Female

Group: 3

Dose level: Control

Day of death: 4

Status: Interim sacrifice 1

Terminal body weight (gms):

Tissue

Finding, severity

<< G R O S S O b s e r v a t i o n s >>

Gross Free-Text Comments

WHOLE BODY

NO LESIONS RECOGNIZED.

Tissue

Necropsy memos

<< N e c r o p s y M e m o s >>

No necropsy memos recorded on animal

Tissue

<< P a t h o l o g y O b s e r v a t i o n s >>

Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Animal: 88C0094 Sex: Female Study Start Date: 13-Jun-88 ACUTE/
Day of death: 15 Status: Final sacrifice Group: 3 Dose level: Control
Terminal body weight (gms): 28.0
Tissue Finding, severity << Gross Observations >> Gross Free-Text Comments
WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos << Necropsy Memos >>
No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>
BRAIN Required protocol tissue is missing.
HEART Required protocol tissue is missing.
LIVER Required protocol tissue is missing.
KIDNEYS Required protocol tissue is missing.
SPLEEN Required protocol tissue is missing.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 67

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0085

Sex: Female

Group: 3

Status: Final sacrifice

Terminal body weight (gms): 29.0

Dose level: Control

Tissue Finding, severity

<< Gross Observations >>

Gross Free-Text Comments

WHOLE BODY

NO LESIONS RECOGNIZED.

Tissue

Necropsy memos

<< Necropsy Memos >>

No necropsy memos recorded on animal

Tissue

<< Pathology Observations >>

Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
Page: 68

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0070

Sex: Female

Group: 3

Dose level: Control

Day of death: 15

Status: Final sacrifice

Terminal body weight (gms): 32.0

Tissue Finding, severity

<< G R O S S O b s e r v a t i o n s >>

Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos

<< N e c r o p s y M e m o s >>

No necropsy memos recorded on animal

Tissue

<< P a t h o l o g y O b s e r v a t i o n s >>

Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
HOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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.....
Animal: 88C0082 Sex: Female Study Start Date: 13-Jun-88 ACUTE/
Day of death: 15 Status: Final sacrifice Group: 3 Dose level: Control
.....
Tissue Finding, severity << Gross Observations >> Terminal body weight (gms): 25.0
.....
WHOLE BODY NO LESIONS RECOGNIZED. Gross Free-Text Comments
.....
Tissue Necropsy memos << Necropsy Memos >>
.....
No necropsy memos recorded on animal
.....
Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>
.....
All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Page: 70

Study Start Date: 13-Jun-88 ACUTE/

Animal: 88C0061

Sex: Female

Group: 3

Dose level: Control

Day of death: 15

Status: Final sacrifice

Terminal body weight (gms): 29.0

Tissue Finding, severity << Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos << Necropsy Memos >>

No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Animal: 88C0074	Sex: Female	Group: 4	Dose level: Control	ACUTE/
Day of death: 4	Status: Interim sacrifice 1		Terminal body weight (gms): 31.0	
Tissue	Finding, severity	<< GROSS	Observations >>	
			Gross Free-Text Comments	
WHOLE BODY	NO LESIONS RECOGNIZED.			
Tissue	Necropsy memos	<< Necropsy	Memos >>	
	No necropsy memos recorded on animal			
Tissue	Histopathologic diagnoses / Special histological comments	<< Pathology	Observations >>	
LIVER	HEPATITIS, Slight, Multifocal.			

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0060

Sex: Female

Group: 4

Dose level: Control

Day of death: 4 Status: Interim sacrifice 1

Terminal body weight (gms): 26.0

Tissue Finding, severity << GROSS Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos << Necropsy Memos >>

No necropsy memos recorded on animal

Tissue << Pathology Observations >>
Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump table
Study Number: 88001

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Study Start Date: 13-Jun-88

Animal: 88C0066 Sex: Female ACUTE/
Day of death: 4 Status: NORMAL, INTERIM SACRIFICE Group: 4 Dose level: Control
Tissue Finding, severity << Gross Observations >> Terminal body weight (gms): 26.0
WHOLE BODY NO LESIONS RECOGNIZED. Gross Free-Text Comments

Tissue Necropsy memos << Necropsy Memos >>
No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>
All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

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Individual Animal Data Dump Table
 Study Number: 88001

Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0052 Sex: Female Group: 4 Dose level: Control
 Day of death: 4 Status: INTERIM SACRIFICE Terminal body weight (gms): 27.0

Tissue Finding, severity << Gross Observations >>
 Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Tissue Necropsy memos
 No necropsy memos recorded on animal

Tissue << Pathology Observations >>
 Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0077

Sex: Female

Group: 4

Dose level: Control

Terminal body weight (gms):

Status: Interim sacrifice 1

<< Gross Observations >>

Gross Free-Text Comments

Finding, severity

NO LESIONS RECOGNIZED.

<< Necropsy Memos >>

Necropsy memos

NO MEMOS

<< Pathology Observations >>

Histopathologic diagnoses / Special histological comments

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0090 Sex: Female Group: 4 Dose level: Control
Day of Death: 15 Status: Final sacrifice Terminal body weight (gms): 26.0

Tissue Finding, severity << Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos << Necropsy Memos >>

No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Animal: 88C0067	Sex: Female	Group: 4	Dose level: Control	ACUTE/
Day of death: 15	Status: Final sacrifice		Terminal body weight (gms): 30.0	
Tissue	Finding, severity	Gross	Observations	
WHOLE BODY	NO LESIONS RECOGNIZED.		Gross Free-Text Comments	
Tissue	Necropsy memos	<< Necropsy Memos >>		
	No necropsy memos recorded on animal			
Tissue	Histopathologic diagnoses / Special histological comments	<< Pathology Observations >>		
LIVER	HEPATITIS, Slight, Multifocal.			

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0053

Sex: Female

Status: Final sacrifice

Group: 4

Dose level: Control
Terminal body weight (gms): 28.0

Day of death: 15

Tissue Finding, severity
WHOLE BODY NO LESIONS RECOGNIZED.

<< GROSS Observations >>
Gross Free-Text Comments

<< Necropsy Memos >>

Tissue Necropsy memos

No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments
<< Pathology Observations >>

All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
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 MOUSE/ICR

Individual Animal Data Dump Table
 Study Number: 88001

PRINTED: 24-Feb-89
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Study Start Date: 13-Jun-88

ACUTE/

Animal: 88C0068 Sex: Female Group: 4 Dose level: Control
 Day of death: 15 Status: Final sacrifice Terminal body weight (gms): 31.0
 Tissue Finding, severity << Gross Observations >>
 WHOLE BODY NO LESIONS RECOGNIZED. Gross Free-Text Comments

Tissue Necropsy memos << Necropsy Memos >>
 No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>
 All protocol required tissues normal.

Annex A (cont.)

Appendix F (cont.): PATHOLOGY REPORT

LETTERMAN ARMY INSTITUTE OF RESEARCH
DIV OF RES SUPP, PATH SERV GP
PRESIDIO OF SAN FRANCISCO, CA 94129
MOUSE/ICR

Individual Animal Data Dump Table
Study Number: 88001

PRINTED: 24-Feb-89
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Study Start Date: 13-Jun-88 ACUTE/

Animal: 88C0051 Sex: Female Group: 4 Dose level: Control
Day of death: 15 Status: Final sacrifice Terminal body weight (gms): 27.0

Tissue Finding, severity << Gross Observations >>
Gross Free-Text Comments

WHOLE BODY NO LESIONS RECOGNIZED.

Tissue Necropsy memos << Necropsy Memos >>

No necropsy memos recorded on animal

Tissue Histopathologic diagnoses / Special histological comments << Pathology Observations >>

All protocol required tissues normal.

Annex A (cont.)

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